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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Chemical and Biological Defense Program **Date:** February 2015

Appropriation/Budget Activity 0400: <i>Research, Development, Test & Evaluation, Defense-Wide / BA 7: Operational Systems Development</i>					R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>							
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	-	12.873	28.496	33.561	-	33.561	33.358	28.935	41.443	39.113	Continuing	Continuing
CA7: <i>CONTAMINATION AVOIDANCE OPERATIONAL SYS DEV</i>	-	-	0.500	4.837	-	4.837	4.854	4.817	4.870	4.986	Continuing	Continuing
CM7: <i>HOMELAND DEFENSE (OP SYS DEV)</i>	-	1.798	2.006	1.915	-	1.915	1.935	1.948	1.958	1.783	Continuing	Continuing
IP7: <i>INDIVIDUAL PROTECTION (OP SYS DEV)</i>	-	0.494	2.501	3.214	-	3.214	1.485	1.457	1.777	1.620	Continuing	Continuing
IS7: <i>INFORMATION SYSTEMS (OP SYS DEV)</i>	-	6.442	4.091	7.703	-	7.703	9.557	12.407	13.519	12.767	Continuing	Continuing
MB7: <i>MEDICAL BIOLOGICAL DEFENSE (OP SYS DEV)</i>	-	0.493	13.414	11.801	-	11.801	10.420	3.137	13.943	12.496	Continuing	Continuing
TE7: <i>TEST & EVALUATION (OP SYS DEV)</i>	-	3.646	5.984	4.091	-	4.091	5.107	5.169	5.376	5.461	Continuing	Continuing

A. Mission Description and Budget Item Justification

This program element supports developmental efforts to upgrade systems in the Department of Defense (DoD) Chemical Biological Defense Program that have been fielded or have received approval for full rate production and anticipate production funding in the current or subsequent fiscal year.

Efforts in this program element support the upgrade of fielded CB defense equipment against emerging chemical threat agents and toxic industrial chemicals. Specifically this program includes: (1) the upgrade and modernization of information systems; (2) the Software Support Activity (SSA); (3) the upgrade and modernization of medical systems; and (4) revitalization and technical upgrade of existing instrumentation and equipment at Dugway Proving Ground (DPG).

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Chemical and Biological Defense Program				Date: February 2015	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
0400: Research, Development, Test & Evaluation, Defense-Wide I BA 7: Operational Systems Development		PE 0607384BP I CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)			
B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	13.026	28.496	35.738	-	35.738
Current President's Budget	12.873	28.496	33.561	-	33.561
Total Adjustments	-0.153	-	-2.177	-	-2.177
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-0.001	-			
• SBIR/STTR Transfer	-0.152	-			
• Other Adjustments	-	-	-2.177	-	-2.177
Change Summary Explanation					
Funding: N/A					
Schedule: N/A					
Technical: N/A					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program										Date: February 2015		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)				Project (Number/Name) CA7 / CONTAMINATION AVOIDANCE OPERATIONAL SYS DEV			
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
CA7: CONTAMINATION AVOIDANCE OPERATIONAL SYS DEV	-	-	0.500	4.837	-	4.837	4.854	4.817	4.870	4.986	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides the technology upgrade and refresh effort for the Chemical Biological Radiological Nuclear Dismounted Reconnaissance Systems (CBRN DRS) with emerging technologies and capabilities which will address and mitigate equipment obsolescence.

The CBRN Dismounted Reconnaissance Systems (CBRN DRS) consists of portable, commercial and government off-the-shelf equipment which provides personnel protection from current and emerging CBRN hazards through detection, identification, sample collection, decontamination, marking, and hazard reporting for CBRN threats. The system supports Dismounted Reconnaissance, Surveillance, and CBRN Site Assessment missions which enables more detailed and near real-time CBRN information flow for the Warfighter. The program will address emerging CBRN threat requirements in order to provide an enhanced capability for the future.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2014	FY 2015	FY 2016
Title: 1) CBRN DRS	-	0.491	3.337
FY 2015 Plans: Initiate market analyses on emerging technologies for potential upgrades to the system. Initiate obsolescence management activities for existing fielded components.			
FY 2016 Plans: Continue market analyses on emerging technologies for potential upgrades to the system. Continue obsolescence management activities for existing fielding components.			
Title: 2) CBRN DRS	-	-	1.500
FY 2016 Plans: Initiate testing of potential candidates (10 components at approximately \$100,000 each)			
Title: 3) SBIR/STTR	-	0.009	-
FY 2015 Plans: SBIR/STTR - FY15 - Small Business Innovative Research.			
Accomplishments/Planned Programs Subtotals	-	0.500	4.837

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>	Project (Number/Name) CA7 / <i>CONTAMINATION AVOIDANCE OPERATIONAL SYS DEV</i>
C. Other Program Funding Summary (\$ in Millions) N/A Remarks D. Acquisition Strategy CBRN DISMOUNTED RECONNAISSANCE SYSTEMS The Chemical Biological Radiological Nuclear Dismounted Reconnaissance Systems (CBRN DRS) program uses a government-off-the-shelf (GOTS)/commercial-off-the-shelf (COTS) non-developmental item (NDI) single step acquisition approach to full capability. This strategy employs an NDI acquisition concept to establish a simplified management framework to translate mission needs and emerging technology capabilities into a stable, affordable, and well-managed acquisition program. CBRN DRS systems will be produced using a workshare approach between Organic assets and Contractor workforce.		
E. Performance Metrics N/A		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program												Date: February 2015			
Appropriation/Budget Activity 0400 / 7						R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)						Project (Number/Name) CA7 / CONTAMINATION AVOIDANCE OPERATIONAL SYS DEV			
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** CBRN DRS - CBRN DRS - HW C - Product Development	MIPR	TBD :	0.000	-		-		1.000	Mar 2016	-		1.000	Continuing	Continuing	-
Subtotal			0.000	-		-		1.000		-		1.000	-	-	-
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** CBRN DRS - CBRN DRS - ES C - Market Analysis	MIPR	TBD :	0.000	-		0.491	Mar 2015	1.350	Dec 2015	-		1.350	Continuing	Continuing	-
CBRN DRS - ES C - Obsolescence Management	MIPR	TBD :	0.000	-		-		0.950	Dec 2015	-		0.950	Continuing	Continuing	-
** ZSBIR - SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	TBD :	0.000	-		0.009		-		-		-	Continuing	Continuing	-
Subtotal			0.000	-		0.500		2.300		-		2.300	-	-	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** CBRN DRS - CBRN DRS - OTE S - Candidate Testing	MIPR	Various :	0.000	-		-		0.500	Mar 2016	-		0.500	Continuing	Continuing	-
Subtotal			0.000	-		-		0.500		-		0.500	-	-	-

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Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** CBRN DRS - CBRN DRS - PM/MS S - Program Management and Systems Engineering Support	MIPR	JPM NBC Contamination Avoidance (JPM NBC CA) : JPEO, Aberdeen Proving Ground, MD	0.000	-		-		1.037	Dec 2015	-		1.037	Continuing	Continuing	-
Subtotal			0.000	-		-		1.037		-		1.037	-	-	-
			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			0.000	-		0.500		4.837		-		4.837	-	-	-
Remarks															

UNCLASSIFIED

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program																Date: February 2015			
Appropriation/Budget Activity 0400 / 7								R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)								Project (Number/Name) CA7 / CONTAMINATION AVOIDANCE OPERATIONAL SYS DEV			

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>	Project (Number/Name) CA7 / <i>CONTAMINATION AVOIDANCE OPERATIONAL SYS DEV</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
** CBRN DRS - Test components to replace obsolete items and insert new technologies	2	2015	4	2020

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program										Date: February 2015		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)				Project (Number/Name) CM7 / HOMELAND DEFENSE (OP SYS DEV)			
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
CM7: HOMELAND DEFENSE (OP SYS DEV)	-	1.798	2.006	1.915	-	1.915	1.935	1.948	1.958	1.783	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Experimentation and demonstration will be used in this phase to reduce risk and inform supporting materiel solutions, CONOPS and TTPs.

The Weapons of Mass Destruction Civil Support Team (WMD CST) Program supports the fielded system upgrade and ongoing assessment and acquisition of commercial off-the-shelf (COTS) and government off-the-shelf (GOTS) analytical detection, protection, decontamination and sampling equipment for survey in order to expand/enhance the operational capabilities of the (57) WMD CST Teams.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2014	FY 2015	FY 2016
Title: 1) WMD CST - Component Test and Evaluation Description: General system-related test activities, including costs of specially fabricated hardware to obtain or validate engineering data on the performance of the system. This element also includes costs of the detailed planning, conduct, support, data reduction, and reports from such testing, as well as hardware items that are consumed or planned to be consumed in the conduct of such operations. FY 2014 Accomplishments: Initiated test and evaluation of GC Mass Spectrometer (HAPSITE). FY 2015 Plans: Completes test and evaluation of GC Mass Spectrometer and validates critical reagents in support of fielded capabilities within the Analytical Laboratory System (ALS). FY 2016 Plans: Provides system-related test activities, including costs of specially fabricated hardware to obtain or validate engineering data on the performance of the system. This element also includes costs of the detailed planning, conduct, support, data reduction, and reports from such testing, as well as hardware items that are consumed or planned to be consumed in the conduct of such operations.	1.128	1.273	1.115
Title: 2) WMD CST - System Engineering and Program Management Description: System engineering and technical control, as well as the business management of the system/program.	0.670	0.716	0.800

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Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>	Project (Number/Name) CM7 / <i>HOMELAND DEFENSE (OP SYS DEV)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015
<i>FY 2014 Accomplishments:</i> Provided System Engineering, technical control, and business management support of the COTS Life Cycle Management Program. <i>FY 2015 Plans:</i> Provides system engineering and technical control, as well as the business management of the system/program. It encompasses the overall planning, direction, and control of the definition, development, and production of the system, including functions of logistics engineering and integrated logistics support (ILS) management (e.g., maintenance support, facilities, personnel, training, testing, and activation of the system). <i>FY 2016 Plans:</i> Provides system engineering and technical control, as well as the business management of the system/program. It encompasses the overall planning, direction, and control of the definition, development, and production of the system, including functions of logistics engineering and integrated logistics support (ILS) management (e.g., maintenance support, facilities, personnel, training, testing, and activation of the system).			
<i>Title:</i> 3) SBIR/STTR <i>FY 2015 Plans:</i> SBIR/STTR - FY15 - Small Business Innovative Research.		-	0.017
Accomplishments/Planned Programs Subtotals		1.798	2.006
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			
D. Acquisition Strategy			
WMD - CIVIL SUPPORT TEAMS (WMD CST)			
The Weapons of Mass Destruction Civil Support Team Program (WMD-CST) is a COTS based program that supports the evaluation of advancements in CBRN commercial off the shelf (COTS)/government-off-the-shelf (GOTS) equipment against the current technology baseline of equipment fielded to the (57) WMD CST Teams. As such, the program establishes a time phased modernization plan to integrate and incorporate proven advancements in commercially available technology into the CST operating mission set based on highest priority capability requirements and availability of resources.			

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Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>	Project (Number/Name) CM7 / <i>HOMELAND DEFENSE (OP SYS DEV)</i>
E. Performance Metrics N/A		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program												Date: February 2015			
Appropriation/Budget Activity 0400 / 7						R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>						Project (Number/Name) CM7 / <i>HOMELAND DEFENSE (OP SYS DEV)</i>			
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** WMD CST - ES C - SEPM	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.000	0.373	Mar 2014	0.378	Mar 2015	0.400	Mar 2016	-		0.400	Continuing	Continuing	-
** ZSBIR - SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	TBD :	0.000	-		0.017		-		-		-	Continuing	Continuing	-
Subtotal			0.000	0.373		0.395		0.400		-		0.400	-	-	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** WMD CST - OTHT C - CBRN COTS Component	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.000	1.128	Mar 2014	1.273	Mar 2015	1.115	Mar 2016	-		1.115	Continuing	Continuing	-
Subtotal			0.000	1.128		1.273		1.115		-		1.115	-	-	-
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** WMD CST - PM/MS SB - CBRN COTS	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.000	0.297	Mar 2014	0.338	Mar 2015	0.400	Mar 2016	-		0.400	Continuing	Continuing	-
Subtotal			0.000	0.297		0.338		0.400		-		0.400	-	-	-
Project Cost Totals			0.000	1.798		2.006		1.915		-		1.915	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program							Date: February 2015			
Appropriation/Budget Activity 0400 / 7			R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>			Project (Number/Name) CM7 / <i>HOMELAND DEFENSE (OP SYS DEV)</i>				
	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract	
Remarks										

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>	Project (Number/Name) CM7 / <i>HOMELAND DEFENSE (OP SYS DEV)</i>	

FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

** WMD CST - Upgrade Fielded Systems																												
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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>	Project (Number/Name) CM7 / <i>HOMELAND DEFENSE (OP SYS DEV)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
** WMD CST - Upgrade Fielded Systems	2	2014	2	2019

UNCLASSIFIED

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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
IP7: INDIVIDUAL PROTECTION (OP SYS DEV)	-	0.494	2.501	3.214	-	3.214	1.485	1.457	1.777	1.620	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		
A. Mission Description and Budget Item Justification												
This Project provides for filter modernization and enhancements against Toxic Industrial Chemicals (TICs) and Toxic Industrial Materials (TIMs). These upgrades will be provided for fielded Protection systems to enhance respiratory and ocular protection. They are currently being developed by the Joint Science and Technology Office (JSTO) as a synthetic nano-structured material focused on TIC removal and expected to transition to the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) in FY15.												
B. Accomplishments/Planned Programs (\$ in Millions)										FY 2014	FY 2015	FY 2016
Title: 1) JSGPM Advanced Respiratory Protection Initiative (ARPI)										0.494	2.452	3.214
FY 2014 Accomplishments: Initiated developmental filter enhancement efforts on Cobalt-Zinc, zirconium hydroxide, Argentum (Silver), TEDA (Triethylene di-amine)(CoZZAT)technology for integration into JSGPM filters to increase protection against TICs and TIMs.												
FY 2015 Plans: Build final prototypes for CoZZAT product qualification.												
FY 2016 Plans: Complete CoZZAT prototype development and conduct Product Qualification Testing (PQT). Begin developing the second technology transition effort, Metal Organic Framework (MOF) Media, an engineered media that is a porous crystalline compound made up of metal ions and organic bridging molecules (ligands) for targeted removal of chemicals. It is currently being developed by JSTO as a synthetic nano-structured material focused on TIC removal.												
Title: 2) SBIR/STTR										-	0.049	-
FY 2015 Plans: SBIR/STTR - FY15 - Small Business Innovative Research.												
Accomplishments/Planned Programs Subtotals										0.494	2.501	3.214

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C. Other Program Funding Summary (\$ in Millions)											
Line Item	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
• JI0003: JOINT SERVICE GENERAL PURPOSE MASK (JSGPM)	85.343	61.131	60.777	-	60.777	55.118	48.982	-	-	-	311.351
Remarks											
D. Acquisition Strategy											
JS GENERAL PURPOSE MASK (JSGPM)											
The JSGPM Advanced Respiratory Protection Initiative (ARPI) effort is using the M61 filter contracts awarded to 3M and Avon to develop improved filters for the JSGPM. There is a continual technology refreshment CLIN that allows for filter development tasks to be awarded under this contract. The tasks can be competed between the two awardees or award to both to ensure competition on future spares and delivery orders. As filter technologies transition from the Defense Threat Reduction Agency (DTRA) and Joint Science and Technology Office (JSTO), the technologies will be matured from system/subsystem prototyping demonstration technologies at Technology Readiness Level (TRL) 6 to actual system "mission proven" through successful mission operations in a mission environment at TRL 9. There are multiple technologies being explored by DTRA, thus, this is a continual product improvement effort to enhance filtration. The JSGPM ARPI effort will investigate alternative designs and modifications to ZZAT (Zirconium hydroxide, Zinc, Argentum (Silver), Triethylene di-amine (TEDA)) to further increase filtration of TICs and Chemical Warfare Agents (CWA). ZZAT is a zirconium hydroxide based filtration media that can potentially be layered with carbon. The first technology, known as Cobalt-Zinc ZZAT (CoZZAT), uses a layered bed of carbon concept to improve TIC and CWA protection capabilities, while the second technology known as Metal Organic Framework (MOF), is an engineered media that is a porous crystalline compound made up of metal ions and organic bridging molecules (ligands) for targeted removal of chemicals.											
E. Performance Metrics											
N/A											

UNCLASSIFIED

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Appropriation/Budget Activity 0400 / 7						R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)				Project (Number/Name) IP7 / INDIVIDUAL PROTECTION (OP SYS DEV)					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** JSGPM - HW C - System Filter Development	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.000	0.149	Jun 2014	-		-		-		-	Continuing	Continuing	-
HW C - Filter Prototypes #1	C/CPFF	AVON Protection Systems Inc. : Cadillac, MI	0.000	-		1.795	Jan 2015	0.625	Jan 2016	-		0.625	Continuing	Continuing	-
HW C - Filter Prototypes #2	C/CPFF	3M Canada : Brockville Ontario, CN	0.000	-		-		0.600	Jan 2016	-		0.600	Continuing	Continuing	-
Subtotal			0.000	0.149		1.795		1.225		-		1.225	-	-	-
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** JSGPM - ES C - System Filter Bed Design Analysis	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.000	0.270	Jun 2014	0.100	Dec 2014	0.550	Dec 2015	-		0.550	Continuing	Continuing	-
** ZSBIR - SBIR/STTR - Aggregated from ZSBIR- SBIR/STTR	PO	TBD :	0.000	-		0.049		-		-		-	Continuing	Continuing	-
Subtotal			0.000	0.270		0.149		0.550		-		0.550	-	-	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** JSGPM - DTE C - System Filters	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.000	-		0.100	Jan 2015	0.725	Jan 2016	-		0.725	Continuing	Continuing	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program												Date: February 2015			
Appropriation/Budget Activity 0400 / 7						R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>						Project (Number/Name) IP7 / <i>INDIVIDUAL PROTECTION (OP SYS DEV)</i>			
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			0.000	-		0.100		0.725		-		0.725	-	-	-
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** JSGPM - JSGPM - PM/MS C - Program Management and Technical Support	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.000	0.075	Feb 2014	0.457	Jan 2015	0.714	Jan 2016	-		0.714	Continuing	Continuing	-
Subtotal			0.000	0.075		0.457		0.714		-		0.714	-	-	-
			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			0.000	0.494		2.501		3.214		-		3.214	-	-	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program										Date: February 2015	
Appropriation/Budget Activity 0400 / 7				R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)				Project (Number/Name) IP7 / INDIVIDUAL PROTECTION (OP SYS DEV)			

	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
** JSGPM - Bed Design Analysis (CoZZAT)	██████████																											
JSGPM - TD Contract Award (CoZZAT)							████																					
JSGPM - Prototype Development (CoZZAT)							██████████																					
JSGPM - Product Qualification Testing (CoZZAT)											██████████																	
JSGPM - ECP Production (CoZZAT)															████													
JSGPM - Bed Design Analysis (MOF)											██████████																	
JSGPM - Prototype Development (MOF)												██████████																
JSGPM - Prototype Testing (MOF)																		██████████										

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>	Project (Number/Name) IP7 / <i>INDIVIDUAL PROTECTION (OP SYS DEV)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
** JSGPM - Bed Design Analysis (CoZZAT)	1	2014	2	2015
JSGPM - TD Contract Award (CoZZAT)	2	2015	2	2015
JSGPM - Prototype Development (CoZZAT)	2	2015	2	2016
JSGPM - Product Qualification Testing (CoZZAT)	2	2016	1	2017
JSGPM - ECP Production (CoZZAT)	2	2017	2	2017
JSGPM - Bed Design Analysis (MOF)	2	2016	4	2016
JSGPM - Prototype Development (MOF)	3	2016	1	2018
JSGPM - Prototype Testing (MOF)	2	2018	1	2019

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program										Date: February 2015		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)				Project (Number/Name) IS7 / INFORMATION SYSTEMS (OP SYS DEV)			
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
IS7: INFORMATION SYSTEMS (OP SYS DEV)	-	6.442	4.091	7.703	-	7.703	9.557	12.407	13.519	12.767	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project provides for the upgrade and modernization of fielded Information Systems including the Joint Effects Model (JEM) and the Joint Warning and Reporting Network (JWARN). This project also provides for the Software Support Activity (SSA).

Efforts included in this project are: (1) Joint Effects Model (JEM); (2) the Joint Warning and Reporting Network (JWARN); and (3) Software Support Activity (SSA).

JEM and JWARN utilize the Joint Capabilities Integration and Development System (JCIDS) Manual prescribed Agile Information Technology Box "IT Box" construct for managing requirements for the follow-on increments of capability development. The "IT Box" is an acquisition approach and methodology regarding how software systems should be developed and fielded. It is a process that differs from the way DoD acquires hardware systems. The acquisition approach uses the Information Systems Initial Capabilities Document (IS ICD) to describe the required operational capabilities for the entire development effort. These overarching requirements are further broken out into Requirements Definition Packages (RDPs) released over the life of the product instead of a single Capability Development Document released early in the program.

IT Box enables programs to tailor the incrementally fielded software program model in the DODI 5000.02 Interim to conduct multiple, more frequent fielding events in lieu of a single fielding event. Programs conduct a single Milestone B (MSB) decision by the Milestone Decision Authority that covers the entire program. MSB is followed by a series of supporting Build Decisions (BDs), delegated to Joint Project Manager Information Systems, associated with each RDP as they are released. The supporting BDs will ensure incorporation of mature technology and development efforts culminating in incremental deliveries of capability to Joint and Service Command and Control (C2) architectures. Instead of a single Milestone C decision and fielding event for one increment, the program will return to the MDA for more frequent fielding decisions, as often as annually, as portions of capability are determined suitable and operationally effective. These multiple fielding efforts are based on providing capabilities with the most value to the operators based on Warfighter priorities/needs, maturation of the technology being incorporated and available resources supporting the effort.

As software-intensive systems, both JEM and JWARN have no separately identifiable unit production components. Both are designated ACAT III programs and unit cost calculations including Program Acquisition Unit Cost/Average Procurement Unit Cost (PAUC/APUC) and Operations and Sustainment (O&S) average annual per unit costs are not applicable.

The Software Support Activity (SSA) is a Chem-Bio Defense user developmental support and service organization to facilitate net-centric interoperability of systems in acquisition for the Warfighter. The SSA provides the CBRN Warfighter with Joint Service solutions for Integrated Architectures, Data Management/Modeling, Information Assurance (IA), Interoperability Certifications, Verification, Validation and Accreditation (VV&A) to support interoperable and integrated net-centric, service-oriented

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program			Date: February 2015		
Appropriation/Budget Activity 0400 / 7		R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	Project (Number/Name) IS7 / INFORMATION SYSTEMS (OP SYS DEV)		
solutions for CBRN systems. The SSA emphasizes development of reference implementations to guide Government and industry system and software developers to ensure that their products meet common interoperability standards. The latest technologies/products include the definition of a Common CBRN Sensor Integration Standard (CCSI) and the CBRN Data Model. These technologies and direct enablers for the development of CBRN integrated sensor networks and the dissemination of CBRN information across all users. The SSA directly supports Chemical and Biological Defense Program (CBDP) initiatives by providing common service oriented architectures and frameworks for the collection and dissemination of Bio-Surveillance and other critical CBRN information.					
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2014	FY 2015	FY 2016
Title: 1) JEM Command and Control (C2) Modernization Efforts			0.646	0.322	0.986
FY 2014 Accomplishments: Updated fielded JEM software due to changing Army, Navy, Air Force, Marine Corps, SOCOM, and National Guard C2 host architectures, systems, and standards in order to maintain interoperability and avert cyber threats and vulnerabilities to host C2 systems. Perform test and evaluation of updated JEM software baseline.					
FY 2015 Plans: Continue to update field JEM software due to changing Army, Navy, Air Force, Marine Corps, SOCOM, and National Guard C2 host architectures, systems, and standards in order to maintain interoperability and avert cyber threats and vulnerabilities to host C2 systems. Perform test and evaluation of updated JEM software baseline.					
FY 2016 Plans: Continue to update fielded JEM Increment 1 software due to changing Army, Navy, Air Force, Marine Corps, SOCOM, and National Guard C2 host architectures, systems, and standards in order to maintain interoperability and avert cyber threats and vulnerabilities to host C2 systems. Perform test and evaluation of updated JEM Increment 1 baselines.					
Title: 2) JEM Pre-Planned Product Improvement (P3I)			1.130	1.053	1.914
FY 2014 Accomplishments: Tested and integrated previously fielded JEM software with science and technology upgrades and model enhancements to improve JEM accuracy and precision. Improve JEM architecture and overall performance through software updates and deficiency resolution.					
FY 2015 Plans: Continue to develop, test, and integrate previously fielded JEM software with science and technology upgrades and model enhancements to improve JEM accuracy and precision. Improve JEM architecture and overall performance through software updates and deficiency resolution.					
FY 2016 Plans: Test and integrate fielded JEM Increment 1 and Increment 2 software with science and technology upgrades and model enhancements to improve JEM accuracy and precision. Improve JEM Increment 1 and Increment 2 architecture and overall					

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015		
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	Project (Number/Name) IS7 / INFORMATION SYSTEMS (OP SYS DEV)		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016
performance through software updates and deficiency resolution. Both Increment 1 and Increment 2 software will be supported until all service C2 systems with Increment 1 software are fielded with Increment 2 software.				
Title: 3) JWARN System Modernization/Update Development		2.617	1.015	2.767
FY 2014 Accomplishments: Conducted engineering and development efforts to upgrade existing, operational JWARN Systems in order to maintain interoperability, efficiency and functionality within the targeted C2 systems while utilizing the IT BOX construct and Agile Software development processes.				
FY 2015 Plans: Continue engineering and development efforts to upgrade existing, operational JWARN Systems in order to maintain interoperability, efficiency and functionality within the targeted C2 systems while utilizing the IT BOX construct and Agile Software development processes.				
FY 2016 Plans: Continue engineering and development efforts to upgrade existing, operational JWARN Systems in order to maintain interoperability, efficiency and functionality within the targeted C2 systems while utilizing the IT BOX construct and Agile Software development processes.				
Title: 4) JWARN IT BOX Program Management Support		0.337	0.227	0.499
FY 2014 Accomplishments: Conducted JWARN program financial management, scheduling, planning and reporting support to modernization effort under the IT BOX construct and Agile Software development processes.				
FY 2015 Plans: Continue JWARN program financial management, scheduling, planning and reporting support to modernization effort under the IT BOX construct and Agile Software development processes.				
FY 2016 Plans: Continue JWARN program financial management, scheduling, planning and reporting support to modernization effort under the IT BOX construct and Agile Software development processes.				
Title: 5) JWARN IT BOX Test & Evaluation (T&E)		0.507	0.227	0.331
FY 2014 Accomplishments:				

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program			Date: February 2015		
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	Project (Number/Name) IS7 / INFORMATION SYSTEMS (OP SYS DEV)			
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016	
Conducted required governmental developmental and operational testing on JWARN software updates and modernization efforts under the IT BOX construct and Agile Software testing processes. FY 2015 Plans: Continue required governmental developmental and operational testing on JWARN software updates and modernization efforts under the IT BOX construct and Agile Software testing processes. FY 2016 Plans: Continue required governmental developmental and operational testing on JWARN software updates and modernization efforts under the IT BOX construct and Agile Software testing processes.					
Title: 6) SSA Policies, Standards and Guidelines FY 2014 Accomplishments: Supported programs in Interoperability and Supportability (I&S) certification, Information Support Plan (ISP), and Data and Service Exposure Verification and Registration. Registered systems in the Army Portfolio Management Solution/Army Information Technology Registry (APMS/AITR). FY 2015 Plans: Support programs in the Interoperability and Supportability (I&S) certification, Information Support Plan (ISP), and Data and Service Exposure Verification and Registration. Update existing programs and register new programs in the Army Portfolio Management Solution/Army Information Technology Registry (APMS/AITR). FY 2016 Plans: Continue to support programs in the Interoperability and Supportability (I&S) certification, Information Support Plan (ISP), and Data and Service Exposure Verification and Registration. Update existing programs and register new programs in the Army Portfolio Management Solution/Army Information Technology Registry (APMS/AITR).		0.252	0.266	0.257	
Title: 7) SSA Integrated Architecture FY 2014 Accomplishments: Provided and updated program of record integrated architectures and provide Net-Centric Policy implementation assistance. Continue to support CCSI updates. Continue to provide CCSI reference implementation. Supported the enterprise tools and common capabilities to ensure relevance across CBRN programs. FY 2015 Plans:		0.251	0.247	0.251	

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program			Date: February 2015		
Appropriation/Budget Activity 0400 / 7		R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	Project (Number/Name) IST / INFORMATION SYSTEMS (OP SYS DEV)		
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2014	FY 2015	FY 2016
Provide and update program of record integrated architectures and provide Net-Centric Policy implementation assistance. Continue to support CCSI updates. Continue to provide CCSI reference implementation. Support the enterprise tools and common capabilities to ensure relevance across CBRN programs. FY 2016 Plans: Continue to provide and update program of record integrated architectures and provide Net-Centric Policy implementation assistance. Continue to support CCSI updates. Continue to provide CCSI reference implementation. Support the enterprise tools and common capabilities to ensure relevance across CBRN programs.					
Title: 8) SSA Chemical, Biological, Radiological, Nuclear (CBRN) Data Model FY 2014 Accomplishments: Achieved a mandated net-centric environment by providing enabling tools which include the CBRN Data Model and Data Dictionary, which define Common CBRN semantics and syntax and the CBRN Extensible Markup Language (XML) schemas that define reusable XML types for information exchange throughout the enterprise. FY 2015 Plans: Achieve a mandated net-centric environment by providing enabling tools which include the CBRN Data Model and Data Dictionary, which define Common CBRN semantics and syntax and the CBRN Extensible Markup Language (XML) schemas that define reusable XML types for information exchange throughout the enterprise. FY 2016 Plans: Achieve a mandated net-centric environment by providing enabling tools which include the CBRN Data Model and Data Dictionary, which define Common CBRN semantics and syntax and the CBRN Extensible Markup Language (XML) schemas that define reusable XML types for information exchange throughout the enterprise.			0.267	0.253	0.251
Title: 9) SSA Information Assurance FY 2014 Accomplishments: Maintained proper Information Assurance accreditation of any system within the CBDP portfolio throughout its life-cycle. This includes periodic re-accreditation of JPEO CBDP systems. FY 2015 Plans: Maintain proper Information Assurance accreditation of any system within the CBDP portfolio throughout its life-cycle. This includes periodic re-accreditation of JPEO CBDP systems. FY 2016 Plans:			0.435	0.434	0.447

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015	
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>	Project (Number/Name) IS7 / <i>INFORMATION SYSTEMS (OP SYS DEV)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015
Continue to maintain proper Information Assurance accreditation of any system within the CBDP portfolio throughout its life-cycle. This includes periodic re-accreditation of JPEO CBDP systems.			
Title: 10) SBIR/STTR		-	0.047
FY 2015 Plans: SBIR/STTR - FY15 - Small Business Innovative Research.			-
Accomplishments/Planned Programs Subtotals		6.442	4.091
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			
D. Acquisition Strategy			
JOINT EFFECTS MODEL (JEM)			
JEM Increment 2 acquisition will utilize the JROC's "IT Box" construct for software development. The intent is to provide the next generation of capability with current and future technologies, as stated in the IS ICD, in less time and fielding products to the service more frequently than an incremental delivery approach. As part of this strategy, JEM program office developed and issued a competitive prototyping contract in April 2013 where two offerers were given the same Technical Data Package (TDP), performance Work Statement (PWS), and software requirements and were tasked to deliver a JEM prototype that implements the CCMI architecture. This competitive prototyping strategy was successful and a single JEM integrator, General Dynamics Information Technology (GDIT), was selected as the prime development contract in December 2013. The current contractor for JEM 2.0 will provide all capabilities defined in the Requirement Definition Package 1 (RDP-1) document produced by the Joint Requirements Office (JRO). The JRO will release RDPs-2, 3, and 4 over the next three years prior to contract completion. It is anticipated when the contract is re-competed in FY18 that there will be four of five capability drops not yet developed under RDP-2 and two of five under RDP-3. The follow-on contract in FY18 will be responsible for developing the remaining capabilities under the JEM 2.0 contract. The JEM follow-on contract will utilize full and open competition and will be referred to as the JEM development, modernization and sustainment contract. The JEM IS ICD describes the notional implementation plan for fielding of future JEM capabilities among four separate JEM Requirement Definition Packages (RDPs). RDP-1 contains the baseline capabilities for software and was released in June of 2014. RDP-2 will be released after the completion of RDP-1. This RDP will incorporate emerging capabilities that the Joint Science and Technology Office determines has reached a sufficient enough maturity for incorporation into JEM, such as ability to model new agents. Requirements to integrate baseline capabilities into a version that can be fielded on service C2 systems will be released in RDP-3.			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>	Project (Number/Name) IS7 / <i>INFORMATION SYSTEMS (OP SYS DEV)</i>
RDP-3 will be released following RDP-1 but prior to RDP-2, to rapidly allow baseline capabilities to be incorporated into C2 systems. RDP-4 is a notional package that would allow the Science and Technology community a venue to use the JEM program to develop a version of the product for S&T use. Capabilities that are only required for the Science and Technology community and not for operational users would be implemented in RDP-4. Capabilities in RDP-4 would not be required to go to Operational Test, as they would not be fielded to operational users. RDP 1 - Baseline Capabilities: There are 5 planned Capability Drops (CD) within RDP 1. RDP 2 - Emerging Capabilities: There are 5 planned Capability Drops (CD) within RDP 2. RDP 3 - C2 Integration: There are 8 planned Capability Drops (CD) within RDP 3 tied to all the various Strategic and Service C2 Systems RDP 4 - Analytical Support: There are 2 planned Capability Drops (CD) within RDP 4. After an over-arching MS B with the MDA, each RDP will have an associated Build Decision. Each CD will have an associated fielding decision. JOINT WARNING & REPORTING NETWORK (JWARN) JWARN Increment 2 utilizes the JROC's "IT Box" construct for software requirements management and development. The intent is to provide the next generation of capability with current and future technologies, as stated in the IS ICD, in less time and away from an incremental delivery approach. This effort is being executed under a Cost-Plus-Award Term Incentive structure to gain maximum benefit to the Government in maintaining the fielded baseline and future software capability development and was awarded under a full and open competition Request for Proposal (RFP). The JWARN Program will procure a Sensor Connectivity Capability (SCC) (hardware materiel solution) in order to facilitate the transfer of CBRN sensor information from legacy CBRN sensors to DoD networks. This solution will be external to the CBRN Sensors and Service-identified network transmission device(s). SOFTWARE SUPPORT ACTIVITY (SSA) The SSA provides enterprise-wide services and coordination across all CBDP programs that contain data or software, or are capable of linking to the Global Information Grid (GIG). The SSA facilitates interoperability, integration, and supportability of existing and developing IT and National Security Systems (NSS). Phase 1a identifies CBDP programs that deal with data or software, and have an IT component. This will be followed by coordination to facilitate the concepts of interoperability, integration and supportability of enterprise-wide services. Next follows work with user communities to develop and demonstrate enterprise-wide common architectures, products and services. Phase 2 will support the application of the enterprise-wide architectures, products and services into the programs, with verification of compliance with the defined products and services. <u>E. Performance Metrics</u> N/A		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program												Date: February 2015			
Appropriation/Budget Activity 0400 / 7						R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)				Project (Number/Name) IST / INFORMATION SYSTEMS (OP SYS DEV)					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** JEM - SW S - JEM Inc. 1 Modernization	C/CPAF	Northrop Grumman Corp. : San Diego, CA	3.821	1.776	Mar 2014	1.375	Mar 2015	2.900	Mar 2016	-		2.900	Continuing	Continuing	-
** JWARN - SW GFPR - JWARN Inc. 1 Modernization	C/CPAF	Northrop Grumman Corp. : Winter Park, FL	5.898	2.280	Mar 2014	0.902	Mar 2015	2.477	Mar 2016	-		2.477	Continuing	Continuing	-
** SSA - SW S - Development Services	MIPR	Space and Naval Warfare (SPAWAR) Systems Center : San Diego, CA	1.378	0.441	Nov 2013	0.438	Nov 2014	0.460	Nov 2015	-		0.460	Continuing	Continuing	-
Subtotal			11.097	4.497		2.715		5.837		-		5.837	-	-	-
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** JWARN - ES S - JWARN Inc.1 Modernization	MIPR	Various :	1.933	0.337	Nov 2013	0.113	Nov 2014	0.424	Nov 2015	-		0.424	Continuing	Continuing	-
** SSA - TD/D C - Information Assurance Activities	MIPR	Space and Naval Warfare (SPAWAR) Systems Center : San Diego, CA	2.021	0.289	Nov 2013	0.293	Nov 2014	0.285	Nov 2015	-		0.285	Continuing	Continuing	-
** ZSBIR - SBIR/STTR - Aggregated from ZSBIR- SBIR/STTR	PO	TBD :	0.000	-		0.047		-		-		-	Continuing	Continuing	-
Subtotal			3.954	0.626		0.453		0.709		-		0.709	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program												Date: February 2015			
Appropriation/Budget Activity 0400 / 7						R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)				Project (Number/Name) IS7 / INFORMATION SYSTEMS (OP SYS DEV)					
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** JWARN - DTE SB - Developmental testing	MIPR	Various :	2.780	0.507	Nov 2013	0.227	Nov 2014	0.501	Nov 2015	-		0.501	Continuing	Continuing	-
** SSA - OTHT S - Integration Verification and Valuation (IV&V)	MIPR	Space and Naval Warfare (SPAWAR) Systems Center : San Diego, CA	1.474	0.475	Nov 2013	0.469	Nov 2014	0.461	Nov 2015	-		0.461	Continuing	Continuing	-
Subtotal			4.254	0.982		0.696		0.962		-		0.962	-	-	-
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** JWARN - PM/MS S - Program management	MIPR	Various :	0.545	0.337	Mar 2014	0.227	Mar 2015	0.195	Mar 2016	-		0.195	Continuing	Continuing	-
Subtotal			0.545	0.337		0.227		0.195		-		0.195	-	-	-
			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			19.850	6.442		4.091		7.703		-		7.703	-	-	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program **Date:** February 2015

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>	Project (Number/Name) IS7 / <i>INFORMATION SYSTEMS (OP SYS DEV)</i>
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	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
** JEM - Production and Deployment (GCCS-M)																												
JEM - Operational Systems Development																												
JEM - Service C2 Systems Modernization & Upgrades																												
JEM - MS B																												
JEM - BD 1																												
JEM - RDP 2																												
JEM - BD 2																												
JEM - FD 1																												
JEM - RDP 3																												
JEM - IOC Standalone																												
JEM - BD 3																												
JEM - FD 2																												
JEM - RDP 4																												
JEM - FD 3																												
JEM - FD 4																												
JEM - Gov't DT / IT / V&V																												
** JWARN - Operational Assessment (OA) - Army Command Post Web																												
JWARN - FOT&E - Army Command Post Web (NIE 14.1)																												
JWARN - Production and Deployment																												
JWARN - Service C2 Systems Modernization and Upgrades																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program **Date:** February 2015

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	Project (Number/Name) IS7 / INFORMATION SYSTEMS (OP SYS DEV)
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	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
JWARN - Baseline Critical Design Review (Software)																												
JWARN - RDP 1																												
JWARN - RDP 2																												
JWARN - TEMP (Software)																												
JWARN - MS B																												
JWARN - BD 1																												
JWARN - BD 2																												
JWARN - Initial Multi-Service Operational Testing (MOT&E)																												
JWARN - RDP 3																												
JWARN - FD 1																												
JWARN - IOC for RDP 1																												
JWARN - BD 3																												
JWARN - FD 2																												
JWARN - IOC for RDP 2																												
JWARN - FD 3																												
JWARN - IOC for RDP 3																												
JWARN - Gov't DT / IT / UFEs / OAs / FOTs																												
** SSA - Provide Information Assurance Site Compliance Testing																												
SSA - Provide CM Services for Common User Products and Services																												
SSA - Provide Information Assurance Certification/Acceptance products/services, including compliance testing																												

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program																				Date: February 2015																	
Appropriation/Budget Activity 0400 / 7										R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)								Project (Number/Name) IS7 / INFORMATION SYSTEMS (OP SYS DEV)																			
										FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
										1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
SSA - Provide Modeling, Simulation, VV&A, Integration/Test support and interoperability demonstrations.																																					
SSA - Provide CBRN Interface Standards, including reference implementations, e.g. Common CBRN Sensor Interface																																					
SSA - Sustain CCSI, including investigation, as an industry standard																																					
SSA - Sustain Common Components products, process and services																																					

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>	Project (Number/Name) IS7 / <i>INFORMATION SYSTEMS (OP SYS DEV)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
** JEM - Production and Deployment (GCCS-M)	1	2014	3	2014
JEM - Operational Systems Development	1	2014	4	2017
JEM - Service C2 Systems Modernization & Upgrades	1	2014	2	2017
JEM - MS B	4	2014	4	2014
JEM - BD 1	1	2015	1	2015
JEM - RDP 2	1	2015	1	2015
JEM - BD 2	2	2015	2	2015
JEM - FD 1	4	2015	4	2015
JEM - RDP 3	4	2015	4	2015
JEM - IOC Standalone	1	2016	1	2016
JEM - BD 3	2	2016	2	2016
JEM - FD 2	4	2016	4	2016
JEM - RDP 4	1	2017	1	2017
JEM - FD 3	4	2017	4	2017
JEM - FD 4	4	2018	4	2018
JEM - Gov't DT / IT / V&V	3	2014	4	2020
** JWARN - Operational Assessment (OA) - Army Command Post Web	1	2014	4	2014
JWARN - FOT&E - Army Command Post Web (NIE 14.1)	1	2014	1	2015
JWARN - Production and Deployment	1	2014	4	2015
JWARN - Service C2 Systems Modernization and Upgrades	1	2014	4	2016
JWARN - Baseline Critical Design Review (Software)	3	2014	1	2015
JWARN - RDP 1	2	2015	2	2015

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program				Date: February 2015	
Appropriation/Budget Activity 0400 / 7		R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>		Project (Number/Name) IS7 / <i>INFORMATION SYSTEMS (OP SYS DEV)</i>	
		Start		End	
Events	Quarter	Year	Quarter	Year	
JWARN - RDP 2	2	2015	2	2015	
JWARN - TEMP (Software)	3	2015	3	2015	
JWARN - MS B	3	2015	3	2015	
JWARN - BD 1	3	2015	3	2015	
JWARN - BD 2	1	2016	1	2016	
JWARN - Initial Multi-Service Operational Testing (MOT&E)	4	2015	2	2016	
JWARN - RDP 3	3	2016	3	2016	
JWARN - FD 1	4	2016	4	2016	
JWARN - IOC for RDP 1	1	2017	1	2017	
JWARN - BD 3	2	2017	2	2017	
JWARN - FD 2	4	2017	4	2017	
JWARN - IOC for RDP 2	4	2017	4	2017	
JWARN - FD 3	4	2018	4	2018	
JWARN - IOC for RDP 3	2	2019	2	2019	
JWARN - Gov't DT / IT / UFEs / OAs / FOTs	3	2015	4	2020	
** SSA - Provide Information Assurance Site Compliance Testing	1	2014	4	2018	
SSA - Provide CM Services for Common User Products and Services	1	2014	4	2020	
SSA - Provide Information Assurance Certification/Acceptance products/services, including compliance testing	1	2014	4	2020	
SSA - Provide Modeling, Simulation, VV&A, Integration/Test support and interoperability demonstrations.	1	2014	4	2020	
SSA - Provide CBRN Interface Standards, including reference implementations, e.g. Common CBRN Sensor Interface	1	2014	4	2020	
SSA - Sustain CCSI, including investigation, as an industry standard	1	2014	4	2020	
SSA - Sustain Common Components products, process and services	1	2014	4	2020	

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program										Date: February 2015		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)				Project (Number/Name) MB7 / MEDICAL BIOLOGICAL DEFENSE (OP SYS DEV)			
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
MB7: MEDICAL BIOLOGICAL DEFENSE (OP SYS DEV)	-	0.493	13.414	11.801	-	11.801	10.420	3.137	13.943	12.496	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project provides for the upgrade and modernization of fielded Medical Biological defense equipment/systems including the Joint Biological Agent Identification and Diagnostic System (JBAIDS) and Next Generation Diagnostic Systems (NGDS) suite.

JBAIDS is a commercial off-the-shelf development/production effort started in August 2003 that focused on rapid development and fielding efforts to deliver a critical capability to identify bacterial and viral agents in environmental surveillance and clinical specimen sample types. By 2005, 16 biological warfare (BW) agent surveillance detection kits were fielded along with the first JBAIDS in vitro diagnostic (IVD) assay cleared by the U.S. Food and Drug Administration (FDA). JBAIDS currently has seven IVD kits cleared by the FDA, JBAIDS achieved full operational capability (340 systems delivered all Services) in July 2011. JBAIDS efforts in 2012-2016 will focus on adding surveillance food and water pathogen detection assays as well as laptop retrofit and fielding. Also, the development team will focus on completing Pre-Emergency Use Authorization (Pre-EUA's) packages annually for FDA review. The operational development RDT&E funds will be used to oversee the configuration management of the system to include the conduct of annual software security information assurance (IA) updates on fielded software and monitor analyzer/laptop parts obsolescence.

The NGDS is an evolutionary acquisition family of systems to provide increments of capability over time across many echelons of the Combat Health Support System. The mission of the NGDS is to provide Chemical, Biological and Radiological (CBR) threat and infectious disease identification and U.S. Food and Drug Administration (FDA)-cleared diagnostics to inform individual patient treatment as defined in the approved NGDS Capabilities Development Document (CDD) and CBR situational awareness and disease surveillance as defined in the Common Analytical Laboratory (CALs) CDD. NGDS Increment 1 (NGDS Inc 1) will significantly improve diagnostic capability for deployable combat health support units (Role 3) while also improving operational suitability and affordability by developing FDA cleared biological warfare agent (BWA) and infectious disease in vitro diagnostic (IVD) assays on existing commercial diagnostic device with a well established FDA regulatory history and pipeline of commercial non-BWA infectious disease diagnostic tests. The NGDS Inc 1 program has a streamlined MS A to MS C - Limited Deployment acquisition strategy. BA7 funds will be used to complete the development of assays initiated during the Technology Maturation and Risk Reduction (TMRR) phase and needed for JBAIDS replacement as well as fund the development of three objective assays (Burkholderia, Alpha Virus, and Orthopox).

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2014	FY 2015	FY 2016
Title: 1) Joint Biological Agent Identification and Diagnostic System (JBAIDS)	0.197	0.400	0.200

FY 2014 Accomplishments:

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program			Date: February 2015		
Appropriation/Budget Activity 0400 / 7		R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	Project (Number/Name) MB7 / MEDICAL BIOLOGICAL DEFENSE (OP SYS DEV)		
B. Accomplishments/Planned Programs (\$ in Millions)			FY 2014	FY 2015	FY 2016
Continued sustainment contract - Contractor Logistics Support (CLS), refurbishments, software updates, Federal Information Security Management Act (FISMA). FY 2015 Plans: Continue sustainment contract - CLS, refurbishments, software updates, FISMA. FY 2016 Plans: Continue sustainment contract - CLS, refurbishments, software updates, Department of Defense Information Assurance Risk Management Framework (DIARMF).					
Title: 2) JBAIDS FY 2014 Accomplishments: Submitted Pre-EUA packages to the FDA. FY 2015 Plans: Continue submissions of Pre-EUA packages to the FDA. FY 2016 Plans: Continue submissions of Pre-EUA packages to the FDA.			0.163	0.200	0.130
Title: 3) JBAIDS FY 2015 Plans: Initiate and complete laptop replacement and fielding efforts.			-	2.517	-
Title: 4) JBAIDS FY 2014 Accomplishments: Completed addition of Food and Water pathogen detection assays to the JBAIDS capabilities.			0.033	-	-
Title: 5) JBAIDS FY 2014 Accomplishments: Maintained the Defense Logistics Agency Electronic-Cataloging capability. FY 2015 Plans: Maintain the Defense Logistics Agency Electronic-Cataloging capability. FY 2016 Plans: Maintain the Defense Logistics Agency Electronic-Cataloging capability.			0.100	0.100	0.100
Title: 6) NGDS - Increment 1			-	4.000	9.371

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015	
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>	Project (Number/Name) MB7 / <i>MEDICAL BIOLOGICAL DEFENSE (OP SYS DEV)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015
<i>FY 2015 Plans:</i> Continue development and FDA clearance of Plague, Tularemia and Q-Fever IVD assays initiated with BA4 funds.			
<i>FY 2016 Plans:</i> Complete development of Plague, Tularemia, and Q-Fever IVD assays.			
<i>Title:</i> 7) NGDS - Increment 1 <i>FY 2015 Plans:</i> Initiate Assay optimization for pan-Burkholderia IVD panel, Alpha virus and orthopox IVD panel. <i>FY 2016 Plans:</i> Continue development for pan-Burkholderia IVD panel, Alpha virus and orthopox IVD panel.		-	1.321
<i>Title:</i> 8) NGDS - Increment 1 <i>FY 2015 Plans:</i> Initiate development and Testing of 22 Environmental Assays, completion will be funded from CALS.		-	4.648
<i>Title:</i> 9) SBIR/STTR <i>FY 2015 Plans:</i> SBIR/STTR - FY15 - Small Business Innovative Research.		-	0.228
Accomplishments/Planned Programs Subtotals		0.493	13.414
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			
D. Acquisition Strategy			
JOINT BIO AGENT IDENT AND DIAG SYSTEM (JBAIDS)			
The original Equipment Manufacturer (OEM) was selected to design and manufacture additional surveillance assay kits to detect food and water pathogens, along with diagnostic kits to detect additional threat agents. The program plans to conduct the annual JBAIDS Federal Information Security Management Act (FISMA) software compliance certification in addition to any logistics sustainment issues associated with parts obsolescence. Additionally, the JBAIDS program office continues to partner with the US Army Medical Institute of Infectious Diseases (USAMRIID), other DoD and US Government laboratories to develop FDA Pre-Emergency Use Authorization (EUA) packages for biological warfare agents (BWA's) that could be used as biological warfare threats to DoD military forces.			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>	Project (Number/Name) MB7 / <i>MEDICAL BIOLOGICAL DEFENSE (OP SYS DEV)</i>
NEXT GENERATION DIAGNOSTICS SYSTEM (NGDS) The term "Role" is used to describe the stratification of the four tiers in which medical support is organized, on a progressive basis, to conduct treatment, evaluation, resupply, and functions essential to the maintenance of the health of the force. Role 3 support is normally provided at Division or Service equivalent level and includes specialist laboratory resources. The NGDS Inc 1 program has a streamlined MS A to MS C - Limited Deployment acquisition strategy. The NGDS Inc 1 is intended to replace the legacy Joint Biological Agent Identification and Diagnostic System (JBAIDS) beginning in FY17. NGDS Increment 2 (NGDS Inc 2) will complement NGDS Inc 1 by developing diagnostic capabilities for biological pathogens and toxins and address diagnostics for chemical and radiological exposures, and to provide capability to lower echelons of care. NGDS Increment 2 will conduct technology development FY14-FY16 prior to MS B. The acquisition strategy and capability to be developed will be informed by the results of the Analysis of Alternatives to be completed 4QFY14. NGDS Increment 2 is intended to be complementary to NGDS Increment 1 to expand the breadth and depth of diagnostics to CBR threats, pre-symptomatic diagnostics, and far forward echelons of care. MB7 funds will support development, testing, and FDA approval of additional assays after system fielding. <u>E. Performance Metrics</u> N/A		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program												Date: February 2015			
Appropriation/Budget Activity						R-1 Program Element (Number/Name)				Project (Number/Name)					
0400 / 7						PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)				MB7 / MEDICAL BIOLOGICAL DEFENSE (OP SYS DEV)					
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** NGDS - Inc 1 - HW C - Assay Development	C/CPFF	TBD :	0.000	-		5.969	Jun 2015	10.088	Dec 2015	-		10.088	Continuing	Continuing	-
Subtotal			0.000	-		5.969		10.088		-		10.088	-	-	-
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** JBAIDS - TD/D SB - Software Update & Parts Obsolescence	C/FFP	TBD :	0.612	-		2.517	Mar 2015	-		-		-	Continuing	Continuing	-
** NGDS - ES S - Engineering Support	MIPR	Various :	0.000	-		0.350	Jun 2015	0.350	Jun 2016	-		0.350	Continuing	Continuing	-
** ZSBIR - SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	TBD :	0.000	-		0.228		-		-		-	Continuing	Continuing	-
Subtotal			0.612	-		3.095		0.350		-		0.350	-	-	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** JBAIDS - OTHT S - EUA packages	MIPR	US Army Medical Research Institute of Infectious Disease (USAMRIID) : Fort Detrick, MD	0.452	0.196	Mar 2014	0.200	Mar 2015	0.130	Mar 2016	-		0.130	Continuing	Continuing	-
** NGDS - DTE S - Operational Assessment/ MOT&E	MIPR	Various :	0.000	-		3.300	Jun 2015	0.746	Jan 2016	-		0.746	Continuing	Continuing	-
Subtotal			0.452	0.196		3.500		0.876		-		0.876	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program												Date: February 2015			
Appropriation/Budget Activity 0400 / 7						R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)				Project (Number/Name) MB7 / MEDICAL BIOLOGICAL DEFENSE (OP SYS DEV)					
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** JBAIDS - PM/MS S - Project Management	MIPR	Various :	1.419	0.100	Jan 2014	0.100	Jan 2015	0.100	Jan 2016	-		0.100	Continuing	Continuing	-
PM/MS S - Sustainment contract: CLS, software updates	PO	Various :	0.000	0.197	Jan 2014	0.400	Jan 2015	0.200	Jan 2016	-		0.200	Continuing	Continuing	-
** NGDS - PM/MS S - Program Management Support	Allot	JPM Medical Countermeasure Systems (JPM MCS) : Fort Detrick, MD	0.000	-		0.350	Jun 2015	0.187	Jan 2016	-		0.187	Continuing	Continuing	-
Subtotal			1.419	0.297		0.850		0.487		-		0.487	-	-	-
			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			2.483	0.493		13.414		11.801		-		11.801	-	-	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program **Date:** February 2015

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>	Project (Number/Name) MB7 / <i>MEDICAL BIOLOGICAL DEFENSE (OP SYS DEV)</i>
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	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
** JBAIDS - Pre-Emergency Use Authorization Packages																												
JBAIDS - Surveillance Assays (Food & Water)																												
JBAIDS - Defense Logistics Agency Electronic-Cataloging																												
JBAIDS - Contractor Logistics Support, System-Sustainment, Analyzer Refurbishment, FISMA/DIARMF																												
JBAIDS - Laptop replacement																												
** NGDS - Increment 1 Environmental Assay Development																												
NGDS - NGDS Inc 1 follow on IVD assay development (Plague, Tularemia, Q-Fever)																												
NGDS - NGDS Inc 1 follow on IVD assay Development (Burkholderia, Alpha Virus, Orthopox)																												
NGDS - Increment 2 follow on Assay Development																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>	Project (Number/Name) MB7 / <i>MEDICAL BIOLOGICAL DEFENSE (OP SYS DEV)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
** JBAIDS - Pre-Emergency Use Authorization Packages	1	2014	4	2020
JBAIDS - Surveillance Assays (Food & Water)	1	2014	3	2015
JBAIDS - Defense Logistics Agency Electronic-Cataloging	1	2014	4	2020
JBAIDS - Contractor Logistics Support, System-Sustainment, Analyzer Refurbishment, FISMA/DIARMF	1	2014	4	2020
JBAIDS - Laptop replacement	2	2015	4	2015
** NGDS - Increment 1 Environmental Assay Development	1	2015	4	2015
NGDS - NGDS Inc 1 follow on IVD assay development (Plague, Tularemia, Q-Fever)	3	2015	4	2016
NGDS - NGDS Inc 1 follow on IVD assay Development (Burkholderia, Alpha Virus, Orthopox)	4	2015	4	2017
NGDS - Increment 2 follow on Assay Development	4	2018	4	2018

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program										Date: February 2015		
Appropriation/Budget Activity 0400 / 7					R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)				Project (Number/Name) TE7 / TEST & EVALUATION (OP SYS DEV)			
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
TE7: TEST & EVALUATION (OP SYS DEV)	-	3.646	5.984	4.091	-	4.091	5.107	5.169	5.376	5.461	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This Project provides revitalization and technology upgrades of existing instrumentation and equipment at West Desert Test Center (WDTC), located at Dugway Proving Ground (DPG), a Major Range and Test Facility Base (MRTFB), in support of their Chemical and Biological (CB) test mission. Included in these efforts are (1) the Life Sciences Test Facility (LSTF) at the WDTC, which is the only U.S. laboratory equipped to test for aerosolized bio-safety level-3 (BSL-3) agents, (2) Major Test Chambers, (3) the CB Test Grid, and (4) the Combined Chemical Test Facility.

B. Accomplishments/Planned Programs (\$ in Millions)

	FY 2014	FY 2015	FY 2016
Title: 1) WDTC - MRTFB - Life Sciences Test Facility FY 2014 Accomplishments: Continued to provide instrumentation and equipment upgrades to the Life Sciences Test Facility (LSTF) at the WDTC, in support of the CB Defense mission. Upgrades and technology enhancements included: (1) Coupled Mass Spec-PCR genotyping system and bundled analysis software to be used to determine identity of all bacterial and viral constituents in biological samples; (2) Referee instrumentation aimed at characterizing bio-Non-Traditional Agent (NTA) (advanced bio threat) and other simulant samples; (3) Immunological identification system; and (4) Enhanced simulant development capability. FY 2015 Plans: Continues to provide instrumentation and equipment upgrades to LSTF at the WDTC, in support of the CB Defense mission. Provides for BSL-3 biological laboratory equipment for the LSTF Annex which is scheduled for completion in FY15. This equipment is required to re-establish full capability of the LSTF upon completion of the Annex. FY 2016 Plans: Continues to provide instrumentation and equipment to LSTF at the WDTC, in support of the CB Defense mission. Continues to provide for BSL-3 biological laboratory equipment for the LSTF Annex. Also provides for enhanced laboratory referee capability and enhancement of the biological decontamination capability.	1.036	2.410	1.221
Title: 2) WDTC - MRTFB - Major Test Chambers FY 2014 Accomplishments: Continued to provide for modernization of existing instrumentation and equipment in the major test chambers at WDTC, in support of the CB Defense mission. These consist of the following: (1) the Material Test Facility (MTF), which is a unique test chamber where real-world decontamination operations can be tested; (2) Building 4165, which houses updated surety test facilities and	0.630	0.641	0.521

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015		
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>	Project (Number/Name) TE7 / <i>TEST & EVALUATION (OP SYS DEV)</i>		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016
laboratories used for the testing of protective material, decontamination technologies, and detection systems with chemical agents and simulants; and (3) Building 3445 chambers support filter and collective protection testing. Modernization in the chambers included: (a) Continue development of an aerosol generation and sampling capability; and (b) Characterization of improved and/or articulated testing fixtures; and (c) Continuous enhancement of Toxic Industrial Chemical (TIC) detection.				
FY 2015 Plans: Continues to provide for modernization of existing instrumentation and equipment in the major test chambers at WDTC, in support of the CB Defense mission. These chambers consist of the following: (1) the MTF, which is a unique test chamber where real-world decontamination operations can be tested; (2) Building 4165, which houses updated surety test facilities and laboratories used for the testing of protective material, decontamination technologies, and detection systems with chemical agents and simulants; and (3) Building 3445 chambers support filter and collective protection testing. Modernization in the chambers includes: (a) Continue enhancements of an aerosol generation and sampling capability; (b) Continue development of the agent fate aerosol capability; (c) Upgrades to agent surety monitor and analytical instrumentation; (d) Continue Small Item Decontamination (SID) recirculating bath upgrade; (e) Upgrade to the large scale filtration fixture to allow toxic agents and systems other than single-pass filtration to be tested; (f) Characterization of improved and/or articulated testing fixtures; (g) Continuous enhancement of TIC detection; and (h) Non-Traditional Agent (NTA) test and detection capability.				
FY 2016 Plans: Provides for modernization of existing instrumentation and equipment in the major test chambers at WDTC, in support of the CB Defense mission. These chambers consist of the following: (1) the MTF, which is a unique test chamber where real-world decontamination operations can be tested; (2) Building 4165, which houses updated surety test facilities and laboratories used for the testing of protective material, decontamination technologies, and detection systems with chemical agents and simulants; and (3) Building 3445 chambers support filter and collective protection testing. Modernization in the chambers includes: (a) Continue enhancements of an aerosol generation and sampling capability; (b) Continue development of the agent fate aerosol capability; (c) Continue upgrades to agent surety monitor and analytical instrumentation; (d) Continuous enhancement of TIC detection; and (e) NTA test and detection capability.				
Title: 3) WDTC - MRTFB - CB Test Grid		0.750	0.764	0.621
FY 2014 Accomplishments: Continued to enhance existing instrumentation and equipment at multiple test grids (Target S, Downwind, Tower Outdoor Test Grids, etc.) at WDTC, in support of the CB Defense mission. DPG's vast area combined with its remote location allow for all sizes of CB and explosive test events, including large scale Toxic Industrial Chemical (TIC) release capability, and are supported by state of the art meteorological and referee capability. Continuing modernization efforts included: (1) Development of agent to simulant correlation, dissemination equipment, and monitoring systems for additional field simulants; (2) Required upgrades to point and standoff field referee systems; (3) Upgrade of communications and data analysis capabilities at command posts; (4)				

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015		
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)	Project (Number/Name) TE7 / TEST & EVALUATION (OP SYS DEV)		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016
Enhanced aerosol dissemination systems; (5) Upgraded high speed cameras; and (6) Development of in house capability to calibrate infrared (IR) cameras to reduce cost and turnaround time. FY 2015 Plans: Continue to enhance existing instrumentation and equipment at multiple test grids (Target S, Downwind, Tower Outdoor Test Grids, etc.) at WDTC, in support of the CB Defense mission. DPG's vast area combined with its remote location allow for all sizes of CB and explosive test events, including large scale TIC release capability, and are supported by state of the art meteorological and referee capability. Continuing modernization efforts will include: (1) Development of agent to simulant correlation, dissemination equipment, and monitoring systems for additional field simulants; (2) Required upgrades to point and standoff field referee systems; (3) Upgrade of communications and data analysis capabilities at command posts; (4) Enhanced aerosol dissemination systems; (5) Upgrade high speed cameras; and (6) Development of in-house capability to calibrate IR cameras to reduce cost and turnaround time. Enhancements to Test Grid provides near real time data analysis and rapid test adaptation to minimize costs and increase effectiveness of testing. FY 2016 Plans: Enhances existing instrumentation and equipment at multiple test grids (Target S, Downwind, Tower Outdoor Test Grids, etc.) at WDTC, in support of the CB Defense mission. DPG's vast area combined with its remote location allow for all sizes of CB and explosive test events, including large scale TIC release capability, and are supported by state of the art meteorological and referee capability. Continuing modernization efforts will include: (1) Continued upgrades to point and standoff field referee systems; (2) Development of agent to simulant correlation, dissemination equipment, and monitoring systems for additional field simulants; (3) Upgrade of grid communications and data analysis capabilities; (4) Enhanced aerosol dissemination systems; (5) Upgrade high speed cameras. Enhancements to Test Grid provides near real time data analysis and rapid test adaptation to minimize costs and increase the effectiveness of field testing.				
Title: 4) WDTC - MRTFB - Combined Chemical Test Facility FY 2014 Accomplishments: Provided for continued revitalization and upgrade of existing instrumentation and equipment at the Combined Chemical Test Facility (CCTF) at WDTC in support of their CB test mission. The CCTF tests the capability of detectors, decontaminants, and protective systems to defend against toxic chemical agents. This project upgraded current technology to include: (1) Characterization of new and upgraded test fixtures; (2) Upgrade control of systems for swatch, protective component, and detection testing test fixtures; (3) Continued upgrade of CB Navy Safari instrumentation to hardened components compatible with a marine environment; (4) Validated low volatility swatch test capability; (5) Enhancements to agent referees and analytical instrumentation; and (6) Expanded filter test capability to include additional toxic industrial chemicals and simulants, and additional types of filtration systems. FY 2015 Plans:		1.230	2.125	1.728

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015	
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>	Project (Number/Name) TE7 / <i>TEST & EVALUATION (OP SYS DEV)</i>	
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015
Provide for continued revitalization and upgrade of existing instrumentation and equipment at the CCTF at WDTC in support of their chemical test mission. The CCTF tests the capability of detectors, decontaminants, and protective systems to defend against toxic chemical agents. Initiates replacement of chemical laboratory fume hoods and hood controllers throughout the chemical labs. Modernization results in improved test fixtures which reduce risk to personnel and testing results. FY 2016 Plans: Provide for continued revitalization and upgrade of existing instrumentation and equipment at the CCTF at WDTC in support of their chemical test mission. The CCTF tests the capability of detectors, decontaminants, and protective systems to defend against toxic chemical agents. Modernization results in improved test fixtures which reduce risk to personnel and provide improved test capabilities.			
Title: 5) SBIR/STTR FY 2015 Plans: SBIR/STTR - FY15 - Small Business Innovative Research.		-	0.044
Accomplishments/Planned Programs Subtotals		3.646	5.984
C. Other Program Funding Summary (\$ in Millions)			
N/A			
Remarks			
D. Acquisition Strategy			
T&E RANGE INSTRUMENT/TECH UPGRADE (T&E UPGRADE)			
Test and evaluation Range Instrumentation/Technology Upgrades is a continuing project. It provides for technical upgrades to WDTC capabilities for Chemical and Biological testing of DoD CB materiel, weapons, and weapons systems from concept through production.			
E. Performance Metrics			
N/A			

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program												Date: February 2015			
Appropriation/Budget Activity 0400 / 7						R-1 Program Element (Number/Name) PE 0607384BP / CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)						Project (Number/Name) TE7 / TEST & EVALUATION (OP SYS DEV)			
Support (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** ZSBIR - SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	TBD :	0.000	-		0.044		-		-		-	Continuing	Continuing	-
Subtotal			0.000	-		0.044		-		-		-	-	-	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
** T&E UPGRAD - OTHT S - Technology Upgrades - WDTC, UT	MIPR	West Desert Test Center : Dugway, UT	7.278	3.646	Mar 2014	5.940	Mar 2015	4.091	Mar 2016	-		4.091	Continuing	Continuing	-
Subtotal			7.278	3.646		5.940		4.091		-		4.091	-	-	-
Project Cost Totals			7.278	3.646		5.984		4.091		-		4.091	-	-	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program **Date:** February 2015

Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>	Project (Number/Name) TE7 / <i>TEST & EVALUATION (OP SYS DEV)</i>
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	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
** T&E UPGRAD - LSTF Instrumentation & Equip Upgrades, WDTC																												
T&E UPGRAD - Modernization of Major Test Chambers, WDTC																												
T&E UPGRAD - Enhance Instrumentation & Equipment at Chemical Biological (CB) Test Grids, WDTC																												
T&E UPGRAD - Revitalize & Upgrade Instrumentation & Equipment at Combined Chemical Test Facility, WDTC																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 7	R-1 Program Element (Number/Name) PE 0607384BP / <i>CHEMICAL/BIOLOGICAL DEFENSE (OP SYS DEV)</i>	Project (Number/Name) TE7 / <i>TEST & EVALUATION (OP SYS DEV)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
** T&E UPGRAD - LSTF Instrumentation & Equip Upgrades, WDTC	1	2014	4	2020
T&E UPGRAD - Modernization of Major Test Chambers, WDTC	1	2014	4	2020
T&E UPGRAD - Enhance Instrumentation & Equipment at Chemical Biological (CB) Test Grids, WDTC	1	2014	4	2020
T&E UPGRAD - Revitalize & Upgrade Instrumentation & Equipment at Combined Chemical Test Facility, WDTC	1	2014	4	2020