Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Chemical and Biological Defense Program	Date: February 2015
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*

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	-	415.467	345.883	303.647	-	303.647	363.435	402.501	335.184	314.086	Continuing	Continuing
CA5: *CONTAMINATION AVOIDANCE (EMD)*	-	28.757	50.582	56.104	-	56.104	65.765	93.784	44.238	58.712	Continuing	Continuing
CM5: *HOMELAND DEFENSE (EMD)*	-	14.311	16.508	17.192	-	17.192	18.108	1.518	-	-	-	67.637
CO5: *COLLECTIVE PROTECTION (EMD)*	-	13.148	4.670	7.361	-	7.361	-	-	-	-	-	25.179
DE5: *DECONTAMINATION SYSTEMS (EMD)*	-	7.519	11.146	16.744	-	16.744	15.854	18.871	7.609	6.676	Continuing	Continuing
IP5: *INDIVIDUAL PROTECTION (EMD)*	-	24.989	15.435	19.439	-	19.439	14.262	11.524	11.610	1.799	Continuing	Continuing
IS5: *INFORMATION SYSTEMS (EMD)*	-	9.155	10.340	19.960	-	19.960	23.747	22.976	24.353	25.736	Continuing	Continuing
MB5: *MEDICAL BIOLOGICAL DEFENSE (EMD)*	-	253.748	179.497	117.881	-	117.881	170.122	209.182	215.905	208.482	Continuing	Continuing
MC5: *MEDICAL CHEMICAL DEFENSE (EMD)*	-	40.973	48.529	42.913	-	42.913	49.322	38.153	25.158	6.371	Continuing	Continuing
TE5: *TEST & EVALUATION (EMD)*	-	22.867	9.176	6.053	-	6.053	6.255	6.493	6.311	6.310	Continuing	Continuing

A. Mission Description and Budget Item Justification

Operational forces have an immediate need to survive, safely operate, and sustain operations in a Chemical and Biological (CB) threat environment across the continuum of global, contingency, special operations/low intensity conflict, counternarcotics, and other high-risk missions. Operating forces have a critical need for defense against worldwide proliferation of CB warfare capabilities and for medical treatment of CB casualties. Congress directed centralized management of Department of Defense (DoD) CB Defense initiatives, both medical and non-medical. This program element supports the System Development and Demonstration (SDD) of medical and physical CB defensive equipment and materiel. Projects within BA5 are structured to consolidate Joint and Service-unique tasks within four commodity areas: contamination avoidance, individual and collective force protection, decontamination, and medical countermeasures. This consolidation provides for development and operational testing of equipment for Joint Service use and for Service-unique requirements.

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Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*

Contamination avoidance efforts under this system development program will provide U.S. forces with real-time hazard assessment capabilities. They include multi-agent point and remote chemical detection for ground, aircraft, and shipboard applications; automated warning and reporting systems; integrated radiation detection and monitoring equipment; and enhanced battlefield reconnaissance capabilities. Force protection efforts will increase protection levels while decreasing physical and psychological burdens imposed by protective equipment.

The Secretary of Defense is responsible for research, development, acquisition, and deployment of medical countermeasure equipment and materiel to prevent or mitigate the health effects of CB threats to the Armed Forces and directs strategic planning for and oversight of programs to support medical countermeasures development and acquisition for our Armed Forces personnel. The CB medical threat to the Armed Forces, in contrast with public health threats to U.S. citizens, encompasses all potential or continuing enemy actions that can render a Service Member combat ineffective. CB medical threats, because they apply as a whole to military units deployed on a specific mission and/or operations, may result in the unit being unable to complete its mission. CB medical countermeasures developed by DoD, unlike those developed to support the U.S. population, must support military commanders practical operational requirements and deployment strategies and must emphasize prevention of injury and illness and protection of the force. Preventive measures in this SDD, such as vaccines and chemical prophylaxis, conserves fighting strength, decreases the logistics burden by reducing the need for larger deployed hospital footprint and greater demand for tactical and strategic medical evacuation, and satisfy the need for greater flexibility in military planning and operations. When vaccines and other prophylactic medical countermeasures are not available, efforts on this SDD support pre-hospitalization treatment, en-route care, hospital care, and long-term clinical outcomes. Specific items in this category include CB diagnostics, and therapeutics to mitigate the consequences of biologic threats and exposure to ionizing radiation due to nuclear or radiological attacks.

The Department of Defense coordinates its efforts with the Departments of Health and Human Services to promote synergy and minimize redundancy. The Department of Defense ensures coordination by participating in the Public Health Emergency Medical Countermeasures Enterprise interagency strategic planning process ("One Portfolio"). The Department of Defense's longstanding experience and success in CB medical countermeasure research, development, acquisition, and deployment not only ensures protection of the Armed Forces, it also accelerates and improves the overall national efforts in CB medical countermeasure research, development, and acquisition because of its unique facilities, testing capabilities, and trained and experienced personnel.

The projects in this program element support efforts in the engineering and manufacturing phase of the acquisition strategy and are therefore correctly placed in Budget Activity 5.

FY 2015 funding includes $335.9 million of base funding and $10.0 million of Ebola emergency funding.

Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Chemical and Biological Defense Program	Date: February 2015
Appropriation/Budget Activity 0400: *Research, Development, Test & Evaluation, Defense-Wide* / BA 5: *System Development & Demonstration (SDD)*	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*

B. Program Change Summary ($ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	426.299	345.883	334.784	-	334.784
Current President's Budget	415.467	345.883	303.647	-	303.647
Total Adjustments	-10.832	-	-31.137	-	-31.137
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-10.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	10.000			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-4.314	-			
• SBIR/STTR Transfer	-6.518	-			
• Other Adjustments	-	-	-31.137	-	-31.137

Change Summary Explanation

Funding: N/A

Schedule: N/A

Technical: N/A

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) CA5 / *CONTAMINATION AVOIDANCE (EMD)*	

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
CA5: *CONTAMINATION AVOIDANCE (EMD)*	-	28.757	50.582	56.104	-	56.104	65.765	93.784	44.238	58.712	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports System Development and Demonstration and Low Rate Initial Production (SDD/LRIP) of an array of reconnaissance, detection and identification equipment, and warning systems. Experimentation and demonstration will be used in this phase to reduce risk and inform supporting materiel solutions, CONOPS and TTPs. Efforts included in this project are: (1) Chemical, Biological, Radiological, and Nuclear Dismounted Reconnaissance Systems (CBRN DRS); (2) Joint Biological Tactical Detection System (JBTDS); (3) Next Generation Chemical Detector (NGCD); (4) Non-Traditional Agent (NTA) Defense Support; (5) Non-Traditional Agent (NTA) Detection Support, and (6) the Global Biosurveillance Technology Initiatives (GBTI).

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 enable more detailed and near real-time CBRN information flow to the Warfighter. The program will address emerging CBRN threat requirements in order to provide an enhanced capability for the future.

The Joint Biological Tactical Detection System (JBTDS) program will develop, integrate, test, and produce the first lightweight, low cost biological surveillance system that will detect, collect, and identify biological warfare agent aerosols. JBTDS will provide warning through the Joint Warning And Reporting Network (JWARN) and archive sample for follow-on analyses. JBTDS, providing near real-time local audio and visual alarm, may be employed by any Military User. JBTDS components will be man-portable, battery-operable, and easy to employ. JBTDS will develop a tactical common identifier using technology from the Next Generation Detection System. JBTDS will provide notification of a hazard and enhance battle space awareness to protect and preserve the force. When networked, JBTDS will augment existing biological detection systems to provide a theater-wide seamless array capable of biological detection, identification and warning to support time sensitive force protection decisions.

The Next Generation Chemical Detector (NGCD) is several detection systems for multi phase of matter sampling, location of liquid and solids on surfaces, and vapor and aerosol monitoring. NGCD will detect and identify non-traditional agents, chemical warfare agents (CWAs), toxic industrial chemicals (TICs) in the air and on surfaces. The NGCD will provide improved NTA/CWA/TIC selectivity and sensitivity on multiple platforms as well as multiple environments. There are four capability areas. of which three; Air Monitor, Surface Survey and Multi-sample Analysis were awarded contracts in the Technical Maturation and Risk Reduction Phase. The fourth capability - personal chemical detection is still in technology development, These sensors will improve detection, consequence management and reconnaissance, and weapons of mass destruction (WMD) interdiction capabilities. The scope of the project includes detection of agent a few feet away from the detector as well as the sampling point of the detector.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *CONTAMINATION AVOIDANCE (EMD)*

The Non-Traditional Agent (NTA) Defense program supports the on-going chemical and biological (CB) defense efforts as acquisition programs address emerging threat requirements across the full spectrum of commodities. Dedicated initiatives and projects will transition information, technologies, and capabilities into acquisition programs that account for the breadth and depth of emerging threats which span the full range of military missions. By leveraging previous work done on NTAs (NTA DETECT) within the DoD, interagency cooperation, and international partnerships, the NTA Defense program will provide essential enablers such as threat understanding; operational impacts of performance trades; and comprehensive, integrated, and layered defense concepts against current CB threats. The program will develop a balanced portfolio which will target capabilities to reduce risk from technology gaps inherent from emerging threats. Additional efforts in conducting systems engineering analysis will occur in order to identify and consolidate capability knowledge gaps and prioritize required investments.

The Non-Traditional Agent (NTA) Detect project will identify, evaluate and continue to transition advanced detection and identification system(s) through follow-on technology insertion efforts which enhance the Domestic Response Capability (DRC), CBRN DRS (Dismounted Reconnaissance Sets, Kits, and Outfits), and Next Generation Chemical Detector programs. These efforts will ensure that specialized units will maintain situational awareness and have the ability to respond to emerging threats. The systems provide a mid-term capability to detect emerging threat materials and afford the Warfighter the ability to support domestic response and force protection missions. These systems will leverage common core technologies to detect and identify threats that can be exploited for lab deployable, fixed site and handheld applications.

The Global Biosurveillance Technology Initiatives (GBTI) will develop a globally-distributed, fully integrated and networked, state-of-the-art analytical capability for biological threats that will enable the compression of the discovery-to-decision timeframe and provide awareness and understanding of the baseline biological threat footprint.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: 1) CBRN DRS - Dismounted Reconnaissance Sets, Kits, and Outfits (DR SKO) ***FY 2014 Accomplishments:*** Completed documentation, systems engineering, and design to support FRP. Continued IPT support.	0.711	-	-
Title: 2) CBRN DRS - DR SKO ***FY 2014 Accomplishments:*** Completed verification and assessment of Failure, Mode, Effects, and Criticality Analysis (FMECA).	0.941	-	-
Title: 3) CBRN DRS - DR SKO ***FY 2014 Accomplishments:*** Completed TM verification and logistics products development.	0.321	-	-
Title: 4) JBTDS ***FY 2014 Accomplishments:***	5.579	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *CONTAMINATION AVOIDANCE (EMD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continued to provide enterprise support for programmatic planning and strategic integration, financial management system support, contractual oversight and management support, acquisition oversight, and technical and IT systems support.			
Title: 5) JBTDS ***FY 2015 Plans:*** Initiate development and design of a tactical common identifier using the down-selected identification system from Next Generation Diagnostic System (NGDS)Increment 1 program. ***FY 2016 Plans:*** Continue development and design of a tactical common identifier using the identification system down-selected from Next Generation Diagnostic System (NGDS) Increment 1 program.	-	8.439	4.075
Title: 6) JBTDS ***FY 2014 Accomplishments:*** Provided government strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, and technical support. ***FY 2015 Plans:*** Continue government strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, testing and evaluation, scheduling, and technical support. ***FY 2016 Plans:*** Continue government strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, testing and evaluation, scheduling, and technical support.	8.576	6.572	9.454
Title: 7) JBTDS ***FY 2014 Accomplishments:*** Initiated combat developer, test community and Service representation (i.e. integrated product teams (IPT) and working groups) during Technology Maturation Risk Reduction (TMRR) Phase. ***FY 2015 Plans:*** Continue combat developer, test community and Service representation (i.e. integrated product teams (IPT) and working groups) during Engineering and Manufacturing Development Phase. ***FY 2016 Plans:***	1.553	2.168	2.430

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *CONTAMINATION AVOIDANCE (EMD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continue combat developer, test community and Service representation (i.e. integrated product teams (IPT) and working groups)during Engineering and Manufacturing Development Phase.			
Title: 8) JBTDS ***FY 2014 Accomplishments:*** Initiated development of unique test fixtures and adapters required to use the specific JBTDS system under test into the test chamber. ***FY 2015 Plans:*** Complete development of unique test fixtures and adapters required to use the specific JBTDS system under test into the test chamber.	0.535	0.850	-
Title: 9) JBTDS ***FY 2015 Plans:*** Initiate developmental planning and testing to include live agent, environmental false alarm, shipboard operations, outdoor interferent and military standard testing. ***FY 2016 Plans:*** Continue developmental planning and testing to include live agent, environmental false alarm, shipboard operations, outdoor interferent and military standard testing.	-	0.750	5.515
Title: 10) JBTDS ***FY 2014 Accomplishments:*** Initiated sensor calibration standards effort for routine maintenance, metrology and calibration capability for detection systems. ***FY 2015 Plans:*** Continue sensor calibration standards effort for routine maintenance, metrology and calibration capability for detection systems. ***FY 2016 Plans:*** Continue sensor calibration standards effort for routine maintenance, metrology and calibration capability for detection systems.	0.475	1.200	0.600
Title: 11) JBTDS ***FY 2016 Plans:*** Initiate reliability growth model for EMD phase testing.	-	-	0.125
Title: 12) JBTDS ***FY 2014 Accomplishments:***	0.224	0.200	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Initiated the verification and validation of military utility model. ***FY 2015 Plans:*** Complete the verification and validation of military utility model.			
Title: 13) JBTDS ***FY 2015 Plans:*** Initiate the Engineering and Manufacturing Development (EMD) Contract (including 103 test articles at approximately $70,000 each). ***FY 2016 Plans:*** Continue the EMD Contract (including 43 test articles at approximately $70,000 each).	-	16.719	12.573
Title: 14) JBTDS ***FY 2016 Plans:*** Initiate combat developer, test community and Service representation (i.e. integrated product teams (IPT) and working groups) for USN variant.	-	-	0.983
Title: 15) JBTDS ***FY 2016 Plans:*** Initiate developmental testing to include live agent, environmental false alarm, shipboard operations, outdoor interferent and military standard testing for USN variant.	-	-	1.031
Title: 16) JBTDS ***FY 2016 Plans:*** Initiate the Contract action (including test articles) for USN variant.	-	-	4.972
Title: 17) JBTDS ***FY 2016 Plans:*** Provide government strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, and technical support for USN Variant.	-	-	2.871
Title: 18) Next Generation Chemical Detector (NGCD) ***FY 2015 Plans:*** Purchase 50 prototypes at approximately $24,000 each.	-	1.136	-
Title: 19) Next Generation Chemical Detector (NGCD)	-	2.203	1.250

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Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *CONTAMINATION AVOIDANCE (EMD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2015 Plans: Prepare and initiate Production Qualification Test (PQT). ***FY 2016 Plans:*** Complete PQT.			
Title: 20) Next Generation Chemical Detector (NGCD) ***FY 2015 Plans:*** Initiate Government Program Management. ***FY 2016 Plans:*** Continue Government Program Management.	-	0.509	0.729
Title: 21) NTA Defense - Threat Understanding/Military Utility and Supportability ***FY 2014 Accomplishments:*** Initiated analysis of threat understanding and combat developer provided operational analysis to ascertain technology and capability gaps in multiple missions. Leveraged previous work done under NTA Detect to fully characterize outputs of threat and operational phenomenology. Centralized the analysis outputs and extended threat phenomenology methodology to all commodities. ***FY 2015 Plans:*** Expand analysis of threat understanding to further emerging classes and provide information to combat developers to ascertain technology and capability gaps in multiple missions. Leverage previous work to fully characterize outputs of threat and operational phenomenology. Centralize the analysis outputs and provide enhanced understanding of current NTA threat presentation. ***FY 2016 Plans:*** Initiate planning for expanded threat space characterization. Continue analysis of threat understanding for further emerging classes to enable refinement of technology and capability gaps identified during mission analysis. Utilize mission analysis outputs to develop initial Military Utility Assessments (MUAs) and Table Top Exercises (TTXs) that inform requirement development.	1.837	1.457	1.942
Title: 22) NTA Defense - Systems Engineering ***FY 2015 Plans:*** Verify and validate model for use in identifying system performance trade space prior to technology evaluation, system design or final requirements definition. ***FY 2016 Plans:***	-	1.411	1.535

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Execute mission modeling to identify enterprise (multi-commodity) NTA solutions to support accelerated and enduring materiel solution development.			
Title: 23) NTA Defense - Test and Evaluation ***FY 2014 Accomplishments:*** Initiated emerging threat test bed and methodologies to evaluate component technologies (detectors, decontaminants, individual protection ensembles) for the enterprise to inform technology development strategies and support competitive prototypes and technology insertions in acquisition programs across the evolving emerging threat space. ***FY 2015 Plans:*** Continue to utilize emerging threat test bed facilities and methodologies to evaluate component technologies (detectors, decontaminants, individual protection ensembles, etc.) for the enterprise to inform technology development strategies and support competitive prototypes and technology insertions in acquisition programs against all emerging threats. Supports assessments of fielded capabilities against new threats and assists risk assessments. ***FY 2016 Plans:*** Continue to utilize emerging threat test bed for system/component technology evaluation against emerging and unforeseen threats, preparing inputs into Systems Engineering processes that conduct solution set analyses.	3.148	2.857	2.171
Title: 24) NTA Defense - Technology Assessments ***FY 2014 Accomplishments:*** Initiated synchronization of acquisition strategies across the Chemical and Biological Defense Program (CBDP), Interagency, and International Community for all NTA initiatives. Conducted assessments and coordinated science and technology transition through Enterprise Wide IPT for whole of government. ***FY 2015 Plans:*** Complete assessments and utilize fielded equipment characterization to identify potential NTA capabilities or respond to emerging requirements.	3.921	2.451	-
Title: 25) NTA Defense - Strategic Coordination (NTA Library) ***FY 2014 Accomplishments:*** Developed and updated the NTA Library to provide a database for NTA knowledge. ***FY 2015 Plans:***	0.436	0.892	0.892

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Utilize DoD/CBDP guidance to synchronize acquisition strategies across interagency and international NTA initiatives. Expand capabilities of the NTA Library to accommodate emerging information and upgrade for use by whole of government. ***FY 2016 Plans:*** Continue to synchronize acquisition strategies across interagency and international NTA initiatives according to DoD/CBDP guidance. Continue to update and maintain NTA Library. Initiate transition to effects manual.			
Title: 26) NTA Detect - Systems Engineering ***FY 2014 Accomplishments:*** Initiated expansion of detection-focused systems engineering modeling tools to account for protection, medical, and decontamination. Initiated model refinement in preparation for verification and validation to be completed using NTA DEFENSE funding.	0.500	-	-
Title: 27) Global Biosurveillance Technology Initiative (GBTI) ***Description:*** The Global Biosurveillance Technology Initiative (GBTI), formerly funded under the Next Generation Diagnostic System (NGDS) is an ongoing effort transitioning from BSV technology to fulfill requirements with expanded capabilities of lab equipment (technologies) lending new, unique and emerging surveillance capabilities for both existing labs as well as new labs. ***FY 2016 Plans:*** Continue ongoing efforts to procure additional assays for biological warfare agents and emerging infectious diseases to support the GBTI labs previously funded under the Next Generation Diagnostic System (NGDS) within MCS in 2015.	-	-	1.300
Title: 28) GBTI ***Description:*** The Global Biosurveillance Technology Initiative (GBTI), formerly funded under the Next Generation Diagnostic System (NGDS) is an ongoing effort transitioning from BSV technology to fulfill requirements with expanded capabilities of lab equipment (technologies) lending new, unique and emerging surveillance capabilities for both existing labs as well as new labs. ***FY 2016 Plans:*** Continue ongoing efforts for bioinformatics integration for Global Biosurveillance Technology Initiative (GBTI) previously funded under the Next Generation Diagnostic System (NGDS) within MCS in 2015.	-	-	0.700
Title: 29) GBTI ***Description:*** The Global Biosurveillance Technology Initiative (GBTI), formerly funded under the Next Generation Diagnostic System (NGDS) is an ongoing effort transitioning from BSV technology to fulfill requirements with expanded capabilities of lab equipment (technologies) lending new, unique and emerging surveillance capabilities for both existing labs as well as new labs.	-	-	0.956

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2016 Plans: Continue ongoing efforts for three open architecture analytical platforms to be fielded and technology insertion of additional capabilities in support the GBTI labs previously funded under the Next Generation Diagnostic System (NGDS) within MCS in 2015.			
Title: 30) SBIR/STTR	-	0.768	-
FY 2015 Plans: SBIR/STTR - FY15 - Small Business Innovative Research.			
Accomplishments/Planned Programs Subtotals	28.757	50.582	56.104

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
• CA4: *CONTAMINATION AVOIDANCE (ACD&P)*	16.800	40.088	60.192	-	60.192	41.486	3.372	2.370	7.056	Continuing	Continuing
• JC0100: *JOINT BIO POINT DETECTION SYSTEM (JBPDS)*	23.895	-	-	-	-	-	-	-	-	-	23.895
• JF0100: *JOINT CHEMICAL AGENT DETECTOR (JCAD)*	47.262	36.924	7.834	-	7.834	7.547	-	-	-	-	99.567
• JF0104: *NEXT GEN CHEMICAL DETECTOR (NGCD)*	-	-	1.000	-	1.000	2.378	1.000	17.208	17.204	Continuing	Continuing
• JN0900: *NON TRADITIONAL AGENT DETECTION (NTA DETECT)*	1.121	-	-	-	-	-	-	-	-	-	1.121
• MC0100: *JOINT NBC RECONNAISSANCE SYSTEM (JNBCRS)*	-	3.600	3.600	-	3.600	3.600	3.600	-	-	-	14.400
• MC0101: *CBRN DISMOUNTED RECONNAISSANCE SYSTEMS (CBRN DRS)*	64.398	123.694	108.704	-	108.704	97.789	102.288	134.343	151.179	Continuing	Continuing
• MX0001: *JOINT BIO TACTICAL DETECTION SYSTEM (JBTDS)*	-	-	-	-	-	-	17.385	69.379	69.377	Continuing	Continuing

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *CONTAMINATION AVOIDANCE (EMD)*

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

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.

JOINT BIO TACTICAL DETECTION SYSTEM (JBTDS)

The JBTDS program will use an evolutionary acquisition strategy. Under this approach, capability is developed based on current technologies, recognizing up front the need for potential technology insertion as technology advances to provide better and more cost effective capabilities. Technology insertions will provide militarily useful and supportable operational capabilities that can be developed, produced, deployed, and sustained. JBTDS will make maximum use of commercial off-the-shelf (COTS) and Government off-the-shelf (GOTS) technology. The JBTDS program is coordinating with Common Analytical Laboratory System and Next Generation Diagnostic System (NGDS) to share information and leverage potential common identification technology solutions. JBTDS will utilize the contract mechanism through NGDS develop a NGDS tactical variant identifier. Full and open competition will be utilized at MS B for the Engineering and Manufacturing Development contract with options for Low Rate Initial Production and Full Rate Production.

NEXT GENERATION CHEMICAL DETECTOR (NGCD)

System Engineering and market survey results suggested the most effective way to develop NGCD was to divide the program into four unique capabilities to detect and identify the full spectrum of chemical compounds in all phases of matter. The Government awarded ten (10) contracts in June 2014 to support Technology Maturation Risk Reduction (TMRR) acquisition phase activities in three of the four capability areas. Three (3) contracts for the Air Monitoring capability, four (4) contracts for the Surface survey capability, and three (3) contracts for the Multi-Sample Analysis capability. Full and Open competition will be used to award Engineering and Manufacturing Development (EMD) contracts with production options for each capability at Milestone B. Candidates for acceleration to provide partial capability will be selected from either the NGCD2 or NGCD1, based on emerging breadboard test results.

NON TRADITIONAL AGENT DEFENSE (NTA DEFENSE)

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *CONTAMINATION AVOIDANCE (EMD)*

The Non-Traditional Agent (NTA) Defense program supports the Chemical Biological Defense Program (CBDP) to develop countermeasures for all emerging threats across all commodities. The NTA Defense program consists of a number of projects and initiatives through full and open contract actions that: (1) evaluate COTS and GOTS technologies and systems, (2) conduct demonstrations and experiments, (3) integrates Intelligence Community threat analysis, JRO/ J-8 operational risk analysis with systems technical performance to identify technologies or systems that can be rapidly developed, and deployed, and/or transitioned to an Acquisition Program for technology insertion or derive an Engineering Change Proposal (ECP) to a fielded system, and (4) coordination of DoD, interagency, international NTA projects. These initiatives allow CBDP/JPEO to mitigate risk against emerging threats and better prepare the warfighter to deal with technological surprise across the full range of military missions.

NON TRADITIONAL AGENT DETECTION (NTA DETECT)

The Non-Traditional Agent (NTA) Detection technology assessments, performance tradeoff analyses, and mission decomposition transitioned a detection capability through incremental acquisition that afforded the Warfighter ability to attain situational awareness and respond to unknown and emerging hazards. COTS/GOTS assessments were used in order to lower program risks, reduce costs, and ensure a higher confidence in selected technologies. The project will address next priority mission areas and threats underneath the NTA Defense profile.

GLOBAL BIO TECH INITIATIVE (GBTI)

Global Biosurveillance Technology Initiative (GBTI) will use an evolutionary acquisition strategy. Under this approach capability is developed and fielded based on current technologies and user needs. Technology insertions will provide state-of-the art analytical capability for biological threats. GBTI will make maximum use of commercial off-the-shelf (COTS) and government off-the-shelf (GOTS) technology.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) CA5 / *CONTAMINATION AVOIDANCE (EMD)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** JBTDS - JBTDS - HW S - EMD Contract Award	C/CPIF	TBD :	0.000	-		16.719	Mar 2015	12.573	Dec 2015	-		12.573	Continuing	Continuing	-
JBTDS - HW C - Tactical Common Identifier	C/CPFF	BioFire Dx : Salt Lake City, UT	0.000	-		8.439	Mar 2015	4.075	Mar 2016	-		4.075	Continuing	Continuing	-
JBTDS - HW C - USN Variant Contract Action	Various	TBD :	0.000	-		-		4.972	Jun 2016	-		4.972	Continuing	Continuing	-
** NGCD - NGCD-HW S - Prototype Build	C/CPFF	TBD :	0.000	-		1.136	Dec 2014	-		-		-	Continuing	Continuing	-
** NTA DEFENSE - NTA Defense - HW S - Fielded Equipment Characterization	C/CPFF	Battelle Memorial Institute : Columbus, OH	0.000	0.931	Mar 2014	0.862	Mar 2015	0.525	Mar 2016	-		0.525	Continuing	Continuing	-
NTA Defense - HW S - Fielded Equipment Characterization	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.000	-		0.675	Mar 2015	0.375	Mar 2015	-		0.375	Continuing	Continuing	-
NTA Defense - HW S - Systems Engineering	C/CPFF	Various :	0.000	-		0.950	Mar 2015	0.950	Mar 2015	-		0.950	Continuing	Continuing	-
NTA Defense - HW S - NTADTS System Design/ Fab/Ins	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.000	0.450	Mar 2014	-		-		-		-	Continuing	Continuing	-
NTA Defense - HW S - Strategic Coordination	MIPR	Various :	0.000	0.899	Mar 2014	0.250	Mar 2015	0.400	Mar 2015	-		0.400	Continuing	Continuing	-
** GBTI - HW S - GBTI - CRP Assay Optimization	MIPR	JPM Medical Countermeasure Systems (JPM MCS) : Fort Detrick, MD	0.000	-		-		1.300	Dec 2015	-		1.300	Continuing	Continuing	-
		Subtotal	0.000	2.280		29.031		25.170		-		25.170	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) CA5 / *CONTAMINATION AVOIDANCE (EMD)*	

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 - ILS S - Logistics Products	C/CPFF	FLIR Systems Inc. : Elkridge, MD	5.604	0.750	Mar 2014	-		-		-		-	Continuing	Continuing	-
** JBTDS - JBTDS - ES S - OTA/OGA Service Representation	MIPR	Various :	0.000	1.553	Mar 2014	2.168	Mar 2015	2.430	Mar 2016	-		2.430	Continuing	Continuing	-
JBTDS - ES S - Test Infrastructure Upgrade (WSLAT)	MIPR	Dugway Proving Ground (DPG) : Dugway, UT	0.000	0.535	Mar 2014	0.850	Mar 2015	-		-		-	Continuing	Continuing	-
JBTDS - ES S - Biosensor Calibration Effort	MIPR	Naval Research Lab (NRL) : Washington, DC	0.000	0.475	Jun 2014	1.200	Mar 2015	0.600	Mar 2016	-		0.600	Continuing	Continuing	-
JBTDS - ES S - OTA/ OGA Representation USN Variant	MIPR	Various :	0.000	-		-		0.983	Jun 2016	-		0.983	Continuing	Continuing	-
** NTA DEFENSE - NTA Defense - ES S - Analysis and Evaluation	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.000	0.054	Mar 2014	0.054	Mar 2015	0.054	Mar 2016	-		0.054	Continuing	Continuing	-
NTA Defense - TD/D C - Integrated Product Team (IPT) Support	MIPR	Various :	0.000	1.108	Mar 2014	0.876	Mar 2015	1.008	Mar 2016	-		1.008	Continuing	Continuing	-
** NTA DETECT - NTA Detect - ES S - Systems Engineering Modeling Tool	FFRDC	MA Institute of Tech - Lincoln Labs (MIT-LL) : Lexington, MA	0.550	0.500	Mar 2014	-		-		-		-	Continuing	Continuing	-
** ZSBIR - SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	TBD :	0.000	-		0.768		-		-		-	Continuing	Continuing	-
		Subtotal	6.154	4.975		5.916		5.075		-		5.075	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *CONTAMINATION AVOIDANCE (EMD)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** CBRN DRS - CBRN DRS-DTE S - Developmental Testing and Operational Assessment	MIPR	Various :	8.613	0.373	Mar 2014	-		-		-		-	Continuing	Continuing	-
** JBTDS - JBTDS DTE S - Developmental Testing	MIPR	Dugway Proving Ground (DPG) : Dugway, UT	0.000	-		0.750	Mar 2015	3.765	Mar 2016	-		3.765	Continuing	Continuing	-
JBTDS - DTE S - V&V of JBTDS Military Utility Model	MIPR	Institute for Defense Analysis (IDA) : Alexandria, VA	0.000	0.224	Jun 2014	0.200	Jun 2015	-		-		-	Continuing	Continuing	-
JBTDS OTHT S - Reliability growth model	MIPR	TBD :	0.000	-		-		0.125	Mar 2016	-		0.125	Continuing	Continuing	-
JBTDS - DTE S - Development Testing	MIPR	Aberdeen Test Center (ATC) : Aberdeen Proving Ground, MD	0.000	-		-		1.450	Mar 2016	-		1.450	Continuing	Continuing	-
JBTDS - DTE S - Development Testing #2	MIPR	Navy Operational Test and Eval Force (OPTEVFOR) : Norfolk, VA	0.000	-		-		0.300	Mar 2016	-		0.300	Continuing	Continuing	-
JBTDS - DTE S - Development Testing USN Variant	MIPR	Various :	0.000	-		-		1.031	Jun 2016	-		1.031	Continuing	Continuing	-
** NGCD - NGCD-DTE S - Production Qualification Test	MIPR	Various :	0.000	-		2.203	Mar 2015	1.250	Dec 2015	-		1.250	Continuing	Continuing	-
** NTA DEFENSE - NTA Defense - DTE S - Developmental Test and Evaluation	C/CPFF	Battelle Memorial Institute : Columbus, OH	0.000	1.728	Mar 2014	1.490	Mar 2015	0.714	Mar 2016	-		0.714	Continuing	Continuing	-
NTA Defense - DTE S - Developmental Test and Evaluation	MIPR	Edgewood Chemical Biological Center	0.000	-		0.860	Mar 2015	0.536	Mar 2016	-		0.536	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *CONTAMINATION AVOIDANCE (EMD)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		(ECBC) : Aberdeen Proving Ground, MD													
NTA Defense - DTE S - Analysis and Evaluation	C/CPFF	MA Institute of Tech - Lincoln Labs (MIT-LL) : Lexington, MA	0.000	1.545	Mar 2014	0.981	Mar 2015	0.950	Mar 2016	-		0.950	Continuing	Continuing	-
		Subtotal	8.613	3.870		6.484		10.121		-		10.121	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** CBRN DRS - CBRN DRS - PM/MS-S - Program Management and System Engineering Support	MIPR	Various :	3.899	0.850	Dec 2013	-		-		-		-	Continuing	Continuing	-
** JBTDS - JBTDS PM/MS SB - Program Management and System Engineering Support	MIPR	JPM NBC Contamination Avoidance (JPM NBC CA) : JPEO, Aberdeen Proving Ground, MD	0.000	2.996	Dec 2013	6.572	Dec 2014	9.454	Dec 2015	-		9.454	Continuing	Continuing	-
JBTDS PM/MS SB - Headquarters-level management services	Allot	JPEO Chem/Bio Defense (JPEO-CBD) : Aberdeen Proving Ground, MD	0.000	11.159	Sep 2014	-		-		-		-	Continuing	Continuing	-
JBTDS - PM/MS C - Program Management and System Engineering Support USN Variant	MIPR	JPM NBC Contamination Avoidance (JPM NBC CA) : JPEO, Aberdeen Proving Ground, MD	0.000	-		-		2.871	Dec 2015	-		2.871	Continuing	Continuing	-
** NGCD - NGCD-PM/MS C - Program Management	MIPR	JPM NBC Contamination Avoidance (JPM	0.000	-		0.509	Mar 2015	0.729	Dec 2015	-		0.729	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program			Date: February 2015
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
and Systems Engineering Support		NBC CA) : JPEO, Aberdeen Proving Ground, MD													
** NTA DEFENSE - NTA Defense - PM/MS S - Program Management Support	MIPR	JPM NBC Contamination Avoidance (JPM NBC CA) : JPEO, Aberdeen Proving Ground, MD	0.000	2.627	Mar 2014	2.070	Mar 2015	1.028	Mar 2016	-		1.028	Continuing	Continuing	-
** GBTI - PM/MS S - GBTI - Information Architecture (Bioinformatics)	MIPR	Various :	0.000	-		-		0.956	Dec 2015	-		0.956	Continuing	Continuing	-
PM/MS S - MagPix MiSeq	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.000	-		-		0.700	Jan 2016	-		0.700	Continuing	Continuing	-
		Subtotal	3.899	17.632		9.151		15.738		-		15.738	-	-	-

Remarks

Also includes the Government Integrated Product Development Team

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	18.666	28.757		50.582		56.104		-		56.104	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *CONTAMINATION AVOIDANCE (EMD)*

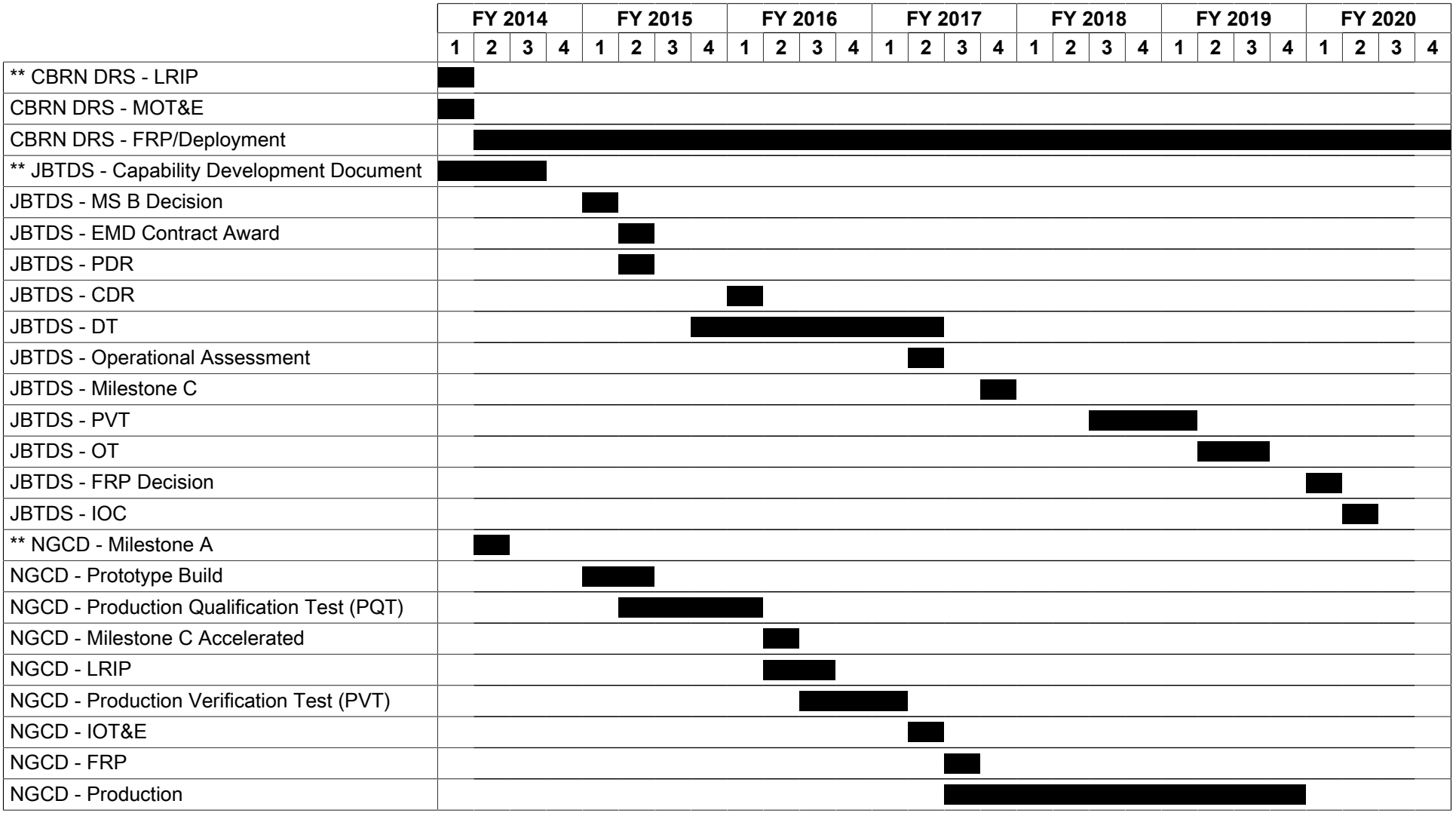

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *CONTAMINATION AVOIDANCE (EMD)*

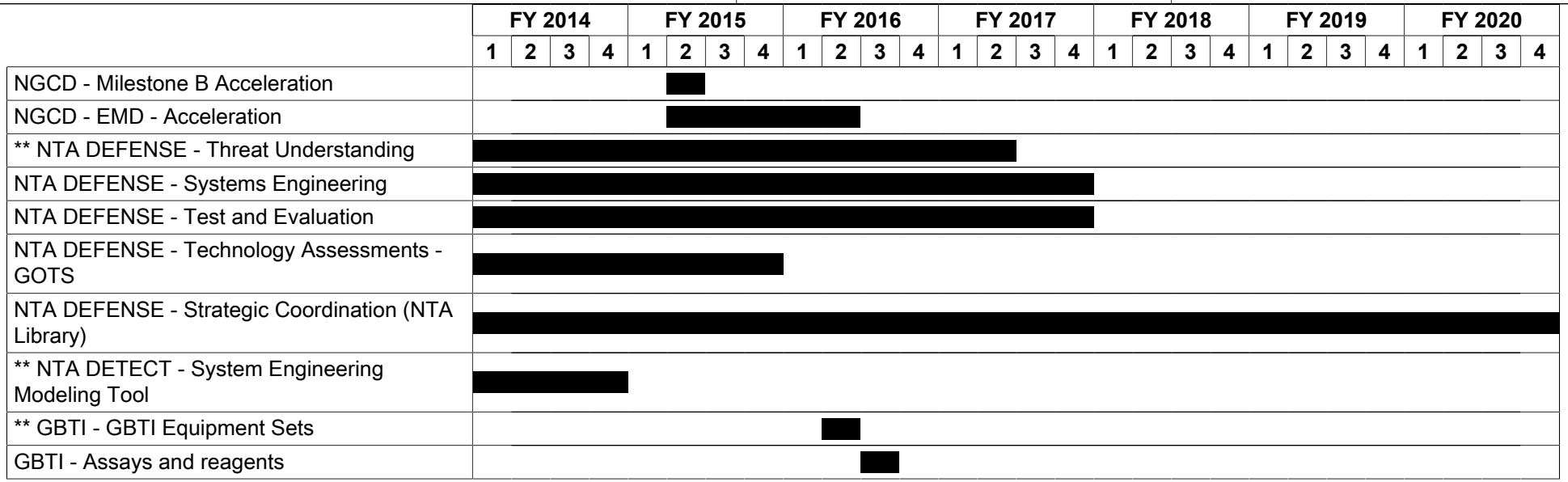

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *CONTAMINATION AVOIDANCE (EMD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
** CBRN DRS - LRIP	1	2014	1	2014
CBRN DRS - MOT&E	1	2014	1	2014
CBRN DRS - FRP/Deployment	2	2014	4	2020
** JBTDS - Capability Development Document	1	2014	3	2014
JBTDS - MS B Decision	1	2015	1	2015
JBTDS - EMD Contract Award	2	2015	2	2015
JBTDS - PDR	2	2015	2	2015
JBTDS - CDR	1	2016	1	2016
JBTDS - DT	4	2015	2	2017
JBTDS - Operational Assessment	2	2017	2	2017
JBTDS - Milestone C	4	2017	4	2017
JBTDS - PVT	3	2018	1	2019
JBTDS - OT	2	2019	3	2019
JBTDS - FRP Decision	1	2020	1	2020
JBTDS - IOC	2	2020	2	2020
** NGCD - Milestone A	2	2014	2	2014
NGCD - Prototype Build	1	2015	2	2015
NGCD - Production Qualification Test (PQT)	2	2015	1	2016
NGCD - Milestone C Accelerated	2	2016	2	2016
NGCD - LRIP	2	2016	3	2016
NGCD - Production Verification Test (PVT)	3	2016	1	2017
NGCD - IOT&E	2	2017	2	2017

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CA5 / *CONTAMINATION AVOIDANCE (EMD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
NGCD - FRP	3	2017	3	2017
NGCD - Production	3	2017	4	2019
NGCD - Milestone B Acceleration	2	2015	2	2015
NGCD - EMD - Acceleration	2	2015	2	2016
** NTA DEFENSE - Threat Understanding	1	2014	2	2017
NTA DEFENSE - Systems Engineering	1	2014	4	2017
NTA DEFENSE - Test and Evaluation	1	2014	4	2017
NTA DEFENSE - Technology Assessments - GOTS	1	2014	4	2015
NTA DEFENSE - Strategic Coordination (NTA Library)	1	2014	4	2020
** NTA DETECT - System Engineering Modeling Tool	1	2014	4	2014
** GBTI - GBTI Equipment Sets	2	2016	2	2016
GBTI - Assays and reagents	3	2016	3	2016

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program											Date: February 2015	
Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*				Project (Number/Name) CM5 / *HOMELAND DEFENSE (EMD)*			
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**
CM5: *HOMELAND DEFENSE (EMD)*	-	14.311	16.508	17.192	-	17.192	18.108	1.518	-	-	-	67.637
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.

This project supports a comprehensive, integrated and layered Chemical Biological Radiological Nuclear (CBRN) protection and response capability for military installations and specialized military consequence management units both at home and abroad. Particular emphasis is placed on improving military-civilian interoperability in CBRN detection and response capabilities; providing tiered levels of CBRN protection and response capabilities to military installations; and tailored modular and integrated COTS solutions to consequence management units.

Included in this project are the following developmental efforts:

The Common Analytical Laboratory System capability (CALS) will be modular, scalable and adaptable to a variety of concept of operations (CONOPS) and environmental conditions. Currently, fielded systems have been designed independently by various agencies with the intent of meeting a specific units requirements. As a result, multiple mobile lab configurations exist with differing sustainment tails and lacking in commonality. The analytical detection package fielded will be fitted to the specific mission and CONOPS of the gaining unit and be able to detect and identify Chemical Warfare Agents (CWAs), Toxic Industrial Chemicals (TICs), Toxic Industrial Materials (TIMs) and Biological Warfare Agents (BWAs). Users of the system will include the National Guard Bureau Civil Support Teams, the Army 20th Support Command, the Army Medical Laboratory, the Air Force, and the Navy.

The Special Purpose Unit - Chemical Biological Equipment (SPU CBE) program supports the evaluation and acquisition integrated chemical, biological, radiological, nuclear and explosive (CBRNE) rapid response capabilities for National Guard Bureau's (NGB) Weapons of Mass Destruction Civil Support Teams (WMD-CST) and Special Purpose Units - Chemical Biological Equipment (SPU-CBE) which consists of the CBRNE Enhanced Response Force Package (CERFP), the United States Marine Corps Chemical Biological Incident Response Force (CBIRF), United States Marine Corps Marine Expeditionary Force (MEF), the United States Army Reserve (USARC) Chemical Recon Platoons, Decon Platoons, Defense Support of Civil Authority CBRN Response Force (DCRF), and the 20th Support Command Nuclear Disablement (NDT) and CBRNE Teams, United States Air Force BAT, BEE, PAM, and Navy FDPMU. Key activities of this program include ongoing life cycle assessments for the portfolio of fielded commercial-off-the-shelf (COTS) CBRNE equipment, identification and evaluation of emerging technologies, prioritization and fielding of improved capabilities to meet established requirements, and the establishment of institutionalized training. The overall capability package includes hand held detection, protection, decontamination, situational awareness software assessment and sampling tools, The purpose of this program is to address legacy requirements gaps/deficiencies for WMD-CST's and SPU-CBE's where they exist through the streamlined acquisition of COTS/government-off-the-shelf (GOTS) capability upgrades that incorporate proven advancements in technology to satisfy mission performance standards.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CM5 / *HOMELAND DEFENSE (EMD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: 1) CALS - Tier III Component Testing ***FY 2014 Accomplishments:*** Initiated and Completed Tier III Component testing Activities	3.145	-	-
Title: 2) CALS - Subsystem Component Test and Evaluation ***FY 2015 Plans:*** Initiate EMD sub-system DT/OT. ***FY 2016 Plans:*** Complete EMD sub-system DT/OT in preparation for Milestone C.	-	4.935	1.500
Title: 3) CALS - System Level Prototype Variant Development and Manufacturing ***FY 2014 Accomplishments:*** Completed preliminary design concepts and review for CALS variant prototypes. ***FY 2015 Plans:*** Initiate the procurement of System Level variant prototypes ensuring integration and connectivity between modules as a general system layout. Purchase parts materials, fabrication, processing, subassembly, final assembly, reworking modification, and installation of parts and equipment, power plants, electronic equipment, and other items (including government-Furnished equipment [GFE]), and the proving of such equipment and instruments for the specified system prototype (Module).	4.568	6.502	-
Title: 4) CALS - System Level Test and Evaluation ***FY 2016 Plans:*** System Level Developmental Test (DT), Logistics Demonstration and contract verification testing for field confirmatory and theater validation variants.	-	-	6.342
Title: 5) CALS - System Integration Laboratory ***Description:*** The System Integration Laboratory supports risk reduction activities by enabling the integration, evaluation and testing of stand alone component / subsystem functionality and interoperability prior to prototype production. ***FY 2014 Accomplishments:*** Continued system integration laboratory analysis and risk reduction activities. ***FY 2015 Plans:***	0.375	0.561	0.800

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CM5 / *HOMELAND DEFENSE (EMD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continued system integration laboratory analysis risk reduction and initiated activities to incorporate analysis of variant system configurations, capabilities, engineering controls. ***FY 2016 Plans:*** Continue system integration laboratory analysis risk reduction and activities to incorporate analysis of variant system configurations, capabilities, engineering controls, information assurance and DIACAP requirements.			
Title: 6) CALS - Support and Training Equipment ***FY 2016 Plans:*** Procure systems and tools to facilitate operator training, evaluation and user demonstrations.	-	-	3.000
Title: 7) CALS - Safety Release Internal Review Board ***FY 2016 Plans:*** Initiate the process for obtaining safety release for all CALS variants in preparation for Logistics Demonstration. Safety release for all equipment is required prior to utilizing active duty personnel for testing activities.	-	-	0.800
Title: 8) CALS - System Engineering and Program Management ***FY 2014 Accomplishments:*** Continue System and Program Management Support to provide management and engineering, quality assurance, and design support in preparation of Critical Design Review, manufacture of prototypes, and testing. ***FY 2015 Plans:*** Continue System and Program Management Support to provide management and engineering, quality assurance and design support in preparation of Critical Design Review, manufacture of prototypes, and testing. ***FY 2016 Plans:*** Continue System and Program Management Support to provide management and engineering, quality assurance and design support in preparation of Critical Design Review, manufacture of prototypes, and testing.	3.777	4.259	4.750
Title: 9) SPU CBE ***FY 2014 Accomplishments:*** Conducted Evaluation of CBRN Commercial Off-The-Shelf (COTS) product technology for integration into Special Purpose Unit mission profile.	2.446	-	-
Title: 10) SBIR/STTR ***FY 2015 Plans:***	-	0.251	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CM5 / *HOMELAND DEFENSE (EMD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
SBIR/STTR - FY15 - Small Business Innovative Research.			
Accomplishments/Planned Programs Subtotals	14.311	16.508	17.192

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
• JS0004: *WMD - CIVIL SUPPORT TEAMS (WMD CST)*	13.866	13.292	5.069	-	5.069	-	-	-	-	-	32.227
• JS0005: *COMMON ANALYTICAL LABORATORY SYSTEM (CALS)*	-	-	-	-	-	17.794	41.181	64.778	63.907	Continuing	Continuing

Remarks

D. Acquisition Strategy

COMMON ANALYTICAL LABORATORY SYSTEM (CALS)

The Common Analytical Laboratory System (CALS) will follow an incremental approach leveraging COTS/ GOTS solutions designed to address known joint force capability requirements for Chemical, Biological, Radiological and Nuclear (CBRN) field confirmatory and theatre validation analysis which includes Toxic Industrial Chemicals (TICs), Toxic Industrial Materials (TIMs), Chemical Warfare Agents (CWAs), Biological Warfare Agents (BWAs). CALS will address situational awareness by utilizing efforts underway to the extent possible. CALS will accommodate these component requirements within a modular and scalable concept framework.

SPU CB EQUIPMENT (SPUCBE)

Evaluate advancements in commercial off the shelf (COTS)/government-off-the-shelf (GOTS) equipment against the current technology baseline of equipment fielded to Special Purpose Units. Establish a time phased modernization plan to integrate and incorporate proven advancements in commercially available technology into the Special Purpose Unit mission set based on highest priority capability requirements and availability of resources.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CM5 / *HOMELAND DEFENSE (EMD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** CALS - CALS - HW S Engineering and Planning	Various	Various :	0.000	-		0.540	Mar 2015	-		-		-	-	0.540	-
CALS - HW Component Testing	Various	Various :	0.000	3.145	Dec 2013	-	Dec 2014	-		-		-	-	3.145	-
CALS - HW S Prototype System Manufacturing	Various	Various :	0.000	4.568	Mar 2014	6.502	Dec 2014	-		-		-	-	11.070	-
HW S - Training Equipment Sets	SS/FFP	TBD :	0.000	-		-		3.000	Jan 2016	-		3.000	-	3.000	-
** SPU CBE - HW S - CBRN Special Purpose Equipment	C/FP	TBD :	0.000	2.171	Jan 2014	-		-		-		-	-	2.171	-
		Subtotal	0.000	9.884		7.042		3.000		-		3.000	-	19.926	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** CALS - ES S - CALS - Engineering Support System	C/FFP	Various :	0.000	2.574	Mar 2014	2.269	Mar 2015	3.150	Jan 2016	-		3.150	-	7.993	-
ES S - CALS - System Integration Laboratory Support	MIPR	Various :	0.000	0.375	Mar 2014	0.561	Mar 2015	0.800	Jan 2016	-		0.800	-	1.736	-
TD/D S - CALS - Safety Internal Review Board	MIPR	TBD :	0.000	-		-		0.800	Mar 2016	-		0.800	-	0.800	-
** ZSBIR - SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	TBD :	0.000	-		0.251		-		-		-	-	0.251	-
		Subtotal	0.000	2.949		3.081		4.750		-		4.750	-	10.780	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CM5 / *HOMELAND DEFENSE (EMD)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** CALS - DTE SB - CALS Subsystem Prototype/ Subsystem DT/OT	C/CPIF	TBD :	0.000	-		4.935	Mar 2015	1.500	Jan 2016	-		1.500	-	6.435	-
DTE S - CALS - System DT and LOGDEMO	C/CPIF	TBD :	0.000	-		-		4.842	Jan 2016	-		4.842	-	4.842	-
DTE SB - CALS - Operation Test Agencies	MIPR	TBD :	0.000	-		-		1.500	Jan 2015	-		1.500	-	1.500	-
		Subtotal	0.000	-		4.935		7.842		-		7.842	-	12.777	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** CALS - PM/MS HW - Program Office - Planning and Programming	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.000	1.203	Mar 2014	1.450	Mar 2015	1.600	Mar 2016	-		1.600	-	4.253	-
** SPU CBE - PM/MS S - Program Management Office	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.000	0.275	Nov 2014	-		-		-		-	-	0.275	-
		Subtotal	0.000	1.478		1.450		1.600		-		1.600	-	4.528	-

	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	14.311		16.508		17.192		-		17.192	-	48.011	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CM5 / *HOMELAND DEFENSE (EMD)*

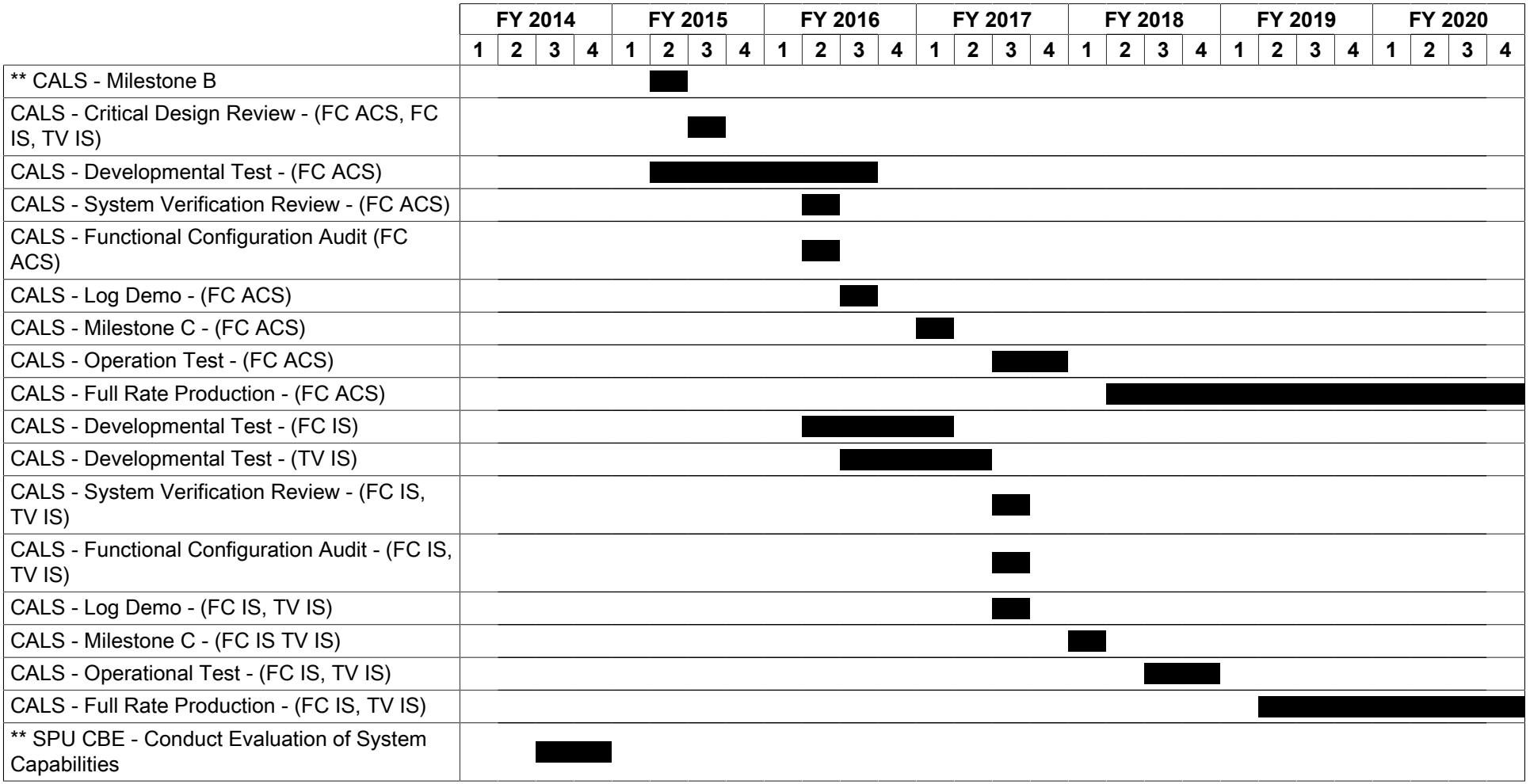

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CM5 / *HOMELAND DEFENSE (EMD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
** CALS - Milestone B	2	2015	2	2015
CALS - Critical Design Review - (FC ACS, FC IS, TV IS)	3	2015	3	2015
CALS - Developmental Test - (FC ACS)	2	2015	3	2016
CALS - System Verification Review - (FC ACS)	2	2016	2	2016
CALS - Functional Configuration Audit (FC ACS)	2	2016	2	2016
CALS - Log Demo - (FC ACS)	3	2016	3	2016
CALS - Milestone C - (FC ACS)	1	2017	1	2017
CALS - Operation Test - (FC ACS)	3	2017	4	2017
CALS - Full Rate Production - (FC ACS)	2	2018	4	2020
CALS - Developmental Test - (FC IS)	2	2016	1	2017
CALS - Developmental Test - (TV IS)	3	2016	2	2017
CALS - System Verification Review - (FC IS, TV IS)	3	2017	3	2017
CALS - Functional Configuration Audit - (FC IS, TV IS)	3	2017	3	2017
CALS - Log Demo - (FC IS, TV IS)	3	2017	3	2017
CALS - Milestone C - (FC IS TV IS)	1	2018	1	2018
CALS - Operational Test - (FC IS, TV IS)	3	2018	4	2018
CALS - Full Rate Production - (FC IS, TV IS)	2	2019	4	2020
** SPU CBE - Conduct Evaluation of System Capabilities	3	2014	4	2014

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program											Date: February 2015	
Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*				Project (Number/Name) CO5 / *COLLECTIVE PROTECTION (EMD)*			
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**
CO5: *COLLECTIVE PROTECTION (EMD)*	-	13.148	4.670	7.361	-	7.361	-	-	-	-	-	25.179
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

Funding supports System Development and Demonstration and Low Rate Initial Production (SDD/LRIP) of Joint Service Chemical, Biological, and Radiological (CBR) Collective Protection (CP) systems that are smaller, lighter, less costly to produce and maintain, and more logistically supportable enabling mission accomplishment in CBR environments. CP systems can be installed on any type of platform, such as, hard and soft shelters, vehicles, ships, aircraft, and buildings. CP systems provide spaces safe from the effects of CBR contamination. Experimentation and demonstration will be used in this phase to reduce risk and inform supporting Concept of Operations (CONOPS) and Tactics, Techniques and Procedures (TTPs).

The system included in this project is the Joint Expeditionary Collective Protection (JECP).

JECP provides the Joint Expeditionary Forces a CP capability which is lightweight, compact, modular, and affordable. A family of systems is planned that will allow the application of CP to transportable soft-side shelters, enclosed spaces of opportunity, and in remote austere locations as a standalone resource. JECP will be capable of protecting personnel groups of varying size, unencumbered by Individual Protective Equipment (IPE), from the effects of CB agents, Toxic Industrial Materials (TIMs), radiological particles, heat, dust, and sand. The employment of JECP is a strategic deterrence against enemy use of CBR agents or TIMs, and will reduce the need for personnel and equipment decontamination.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: 1) JECP - System Development and Demonstration	0.213	-	-
FY 2014 Accomplishments: Developed logistic products for the Family of Systems (FoS). Created design changes to the FoS to address failures from developmental testing (DT) and observations from the operational assessment.			
Title: 2) JECP - Low Rate Initial Production (LRIP)	9.751	3.045	4.842
FY 2014 Accomplishments: Manufactured additional LRIP systems, 3 tent kits at approximately $69,000 each, 2 improved structure kits at approximately $64,000 each, 3 standalone larges at approximately $185,000 each, 4 single person airlocks at approximately $34,000 each, and 3 multi-person airlocks at approximately $65,000 each. Estimated total FY14 cost of LRIP systems is $1,221,000 million. Refined logistic products for the family of systems. Conducted technical manual validation for the family of systems. Supported			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CO5 / *COLLECTIVE PROTECTION (EMD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Government led production verification testing. Developed and manufactured 4 prototype passive systems at $55,000 each. Continued development of the level III drawing package, technical data package, technical manuals, training package and other required logistic support products. ***FY 2015 Plans:*** Continue to develop level III drawing package, technical data package, technical manuals, training package and other required logistic support products. ***FY 2016 Plans:*** Finalize technical manuals, training package and all logistic support products in preparation for Full Rate Production (FRP)/ material release decision. Finalize level III drawing package. Conduct physical configuration audit and FRP manufacturing readiness assessment. Prepare for FRP.			
Title: 3) JECP - Developmental and Operational Testing ***FY 2014 Accomplishments:*** Conducted prototype/regression testing on any design changes resulting from failures during DT or observations from the Operational Assessment (OA). Conducted Government system level DT on LRIP systems including Collective Protection (CP) verification, entry/exit, post-field CP verification and a Reliability, Availability and Maintainability events in littoral and desert environments. ***FY 2015 Plans:*** Conduct a combined DT/ MOT&E I field chemical simulant challenge event on LRIP systems. Complete Government system level DT on LRIP systems. Conduct Logistics Demonstration. ***FY 2016 Plans:*** Conduct MOT&E II without a field chemical simulant challenge to test the operational capabilities of the system to support service specific missions.	3.184	1.572	2.519
Title: 4) SBIR/STTR ***FY 2015 Plans:*** SBIR/STTR - FY15 - Small Business Innovative Research.	-	0.053	-
Accomplishments/Planned Programs Subtotals	13.148	4.670	7.361

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CO5 / *COLLECTIVE PROTECTION (EMD)*

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
• JP1111: *JOINT EXPEDITIONARY COLLECTIVE PROTECTION (JECP)*	4.000	15.898	5.864	-	5.864	14.381	14.037	26.020	25.418	Continuing	Continuing

Remarks

D. Acquisition Strategy

JOINT EXPEDITIONARY COLLECTIVE PROTECTION (JECP)

Strategy based on evolutionary development, based on a family of systems approach. After MS B, awarded competitive Cost Plus Incentive Fee (CPIF) contract to Science Applications International Corporation (now Leidos) in 2008 to build prototypes subjected to robust engineering developmental testing and Operational Assessment during the System Development and Demonstration (SDD) phase. After MS C, awarded a Firm Fixed Price (FFP) option to Leidos in September 2013 for Low Rate Initial Production (LRIP) systems to support formal Developmental Testing (DT) and Multi-Service Operational Test & Evaluation (MOT&E) events. In addition, a Fixed Price Incentive Successive Target (FPIS) option was awarded to Leidos in January 2014 to perform non-recurring engineering (NRE) and logistic product development associated with the LRIP system configurations. Following a successful Full Rate Production (FRP) decision, award a FFP option with five one-year ordering periods. Full and open competition will be used with an updated system performance specification to award follow-on production contracts.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CO5 / *COLLECTIVE PROTECTION (EMD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** JECP - HW S - Prototype Development	C/CPIF	Leidos : Abingdon, MD	6.201	0.213	Dec 2013	-		-		-		-	-	6.414	-
HW S - Production Representative System	C/FPIF	Leidos : Abingdon, MD	4.911	2.577	Dec 2013	-		-		-		-	-	7.488	-
HW S - Non-recurring Engineering	C/FFP	Leidos : Abingdon, MD	0.000	1.834	Dec 2013	0.600	Nov 2014	1.049	Nov 2015	-		1.049	-	3.483	-
		Subtotal	11.112	4.624		0.600		1.049		-		1.049	-	17.385	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** JECP - ES S - Systems Engineering Oversight	MIPR	Naval Surface Warfare Center (NSWC) - Dahlgren Center : Dahlgren, VA	0.000	0.681	Dec 2013	0.296	Nov 2014	0.742	Dec 2015	-		0.742	-	1.719	-
JECP - ES S - Systems Engineering IPT	MIPR	Various :	5.256	0.844	Dec 2013	0.402	Dec 2014	0.796	Dec 2015	-		0.796	-	7.298	-
JECP - ILS S - Integrated Logistics IPT	MIPR	Various :	2.783	1.036	Dec 2013	0.708	Dec 2014	0.599	Dec 2015	-		0.599	-	5.126	-
** ZSBIR - SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	TBD :	0.000	-		0.053		-		-		-	-	0.053	-
		Subtotal	8.039	2.561		1.459		2.137		-		2.137	-	14.196	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** JECP - OTHT SB - Test & Evaluation IPT	MIPR	Various :	5.785	0.501	Dec 2013	0.525	Nov 2014	0.584	Dec 2015	-		0.584	-	7.395	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CO5 / *COLLECTIVE PROTECTION (EMD)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
JECP - DTE S - Low Rate Initial Production Units Production Verification Testing	MIPR	Various :	0.110	2.280	Jan 2014	0.547	Dec 2014	-		-		-	-	2.937	-
JECP - OTE S - Low Rate Initial Production Multi-Service Operational Testing	MIPR	Various :	0.000	0.403	Jan 2014	0.500	Dec 2014	1.935	Dec 2015	-		1.935	-	2.838	-
		Subtotal	5.895	3.184		1.572		2.519		-		2.519	-	13.170	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** JECP - PM/MS S - Program Management Support	MIPR	Various :	5.545	2.779	Mar 2014	1.039	Dec 2014	1.656	Dec 2015	-		1.656	-	11.019	-
		Subtotal	5.545	2.779		1.039		1.656		-		1.656	-	11.019	-

	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	30.591	13.148		4.670		7.361		-		7.361	-	55.770	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CO5 / *COLLECTIVE PROTECTION (EMD)*

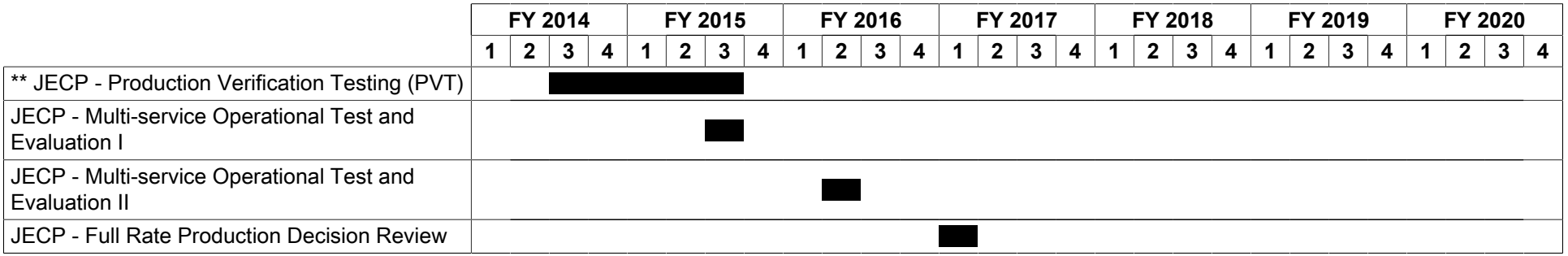

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** CO5 / *COLLECTIVE PROTECTION (EMD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
** JECP - Production Verification Testing (PVT)	3	2014	3	2015
JECP - Multi-service Operational Test and Evaluation I	3	2015	3	2015
JECP - Multi-service Operational Test and Evaluation II	2	2016	2	2016
JECP - Full Rate Production Decision Review	1	2017	1	2017

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program											Date: February 2015	
Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*				Project (Number/Name) DE5 / *DECONTAMINATION SYSTEMS (EMD)*			
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**
DE5: *DECONTAMINATION SYSTEMS (EMD)*	-	7.519	11.146	16.744	-	16.744	15.854	18.871	7.609	6.676	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides System Development and Demonstration (SDD) for: (1) the Contaminated Human Remains Pouch (CHRP); (2) the Decontamination Family of Systems (DFoS); (3) Contamination Indicator Decontamination Assurance System (CIDAS); (4) General Purpose Decontaminant (GPD); (5) Joint Service Equipment Wipe (JSEW); (6) Joint Biological Aircraft Decontamination (JBAD) System; and (7) Major Defense Acquisition Program (MDAP). Experimentation and demonstration will be used in this phase to reduce risk
and inform supporting materiel solutions, CONOPS and TTPs.

The Contaminated Human Remains Pouch (CHRP) program will provide the capability to protect personnel handling and processing human remains contaminated with Chemical, Biological, Radiological, or Nuclear (CBRN) contamination. The CHRP is a body bag designed to contain chemical, biological, or radiological contaminated fluids and gasses from contaminated remains. The CHRP will fulfill gaps as described in the Mortuary Affairs (MA) Initial Capabilities Document (ICD) for safe intra-theater handling and transport of contaminated human remains (CHR). The CHRP will provide protection by containing CHR during recovery and transport from the point of fatality to the MA Activity. The CHRP will contain fluid and vapor CBRN hazards associated with the CHR to reduce the spread of contamination and reduce the hazard to personnel handling the CHR and the environment. Successful development and procurement of the CHRP will provide Warfighters with the capability to safely handle, transport, and temporarily store or inter CHR in a theater of operations.

The Decontamination Family of Systems (DFoS) program facilitates the rapid transition of mature Science and Technology (S&T) research developments to existing Decontamination or Contamination Mitigation ICD Programs of Record and guides S&T community efforts toward meeting the needs of the Warfighter. DFoS will develop a Family of Systems (FoS), to include equipment, to improve decontamination processes, and decontaminant solutions to meet the capability gaps for decontaminating Non-Traditional Agents (NTA) and chemical and biological (CB) warfare agents from personnel, equipment, vehicle interiors/exteriors, terrain, and fixed facilities.

CIDAS is a contamination indicator/decontamination assurance technology. It will consist of an indicator and an applicator, for which there will be three configurations. The indicator will be sprayed on tactical vehicles, aircraft, ships, crew-served weapons, and individual weapons that may have been exposed to traditional and non-traditional chemical contamination. CIDAS is a new capability for the Joint Forces that will reduce the logistics burden of decontamination by indicating presence and location of traditional (Nerve and Blister) and non-traditional chemical agents on militarily relevant surfaces pre- and post-decontamination.

General Purpose Decontaminant (GPD) is a liquid decontaminant that will provide thorough decontamination capabilities for tactical vehicles, shipboard surfaces, crew-served weapons, and individual/personal weapons in hostile an non-hostile environments that have been exposed to traditional and non-traditional CB contamination.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *DECONTAMINATION SYSTEMS (EMD)*

The Joint Service Equipment Wipe (JSEW) is a decontamination wipe that will provide immediate/operational decontamination capabilities for sensitive and non-sensitive equipment in hostile and non-hostile environments that have been exposed to chemical agents/contamination and shall decontaminate Nerve and Blister agents from a starting liquid challenge of 10 g/m2 to less than or equal to 1 g/m2 and non-traditional agents from a starting liquid challenge of 5 g/m2 to less than or equal to 1 g/m2. In addition, the JSEW is intended to be a replacement for the Individual Equipment Decontamination Kit (M295). Follow on increments of JSEW may include biological agent capability and/or use on skin.

The F-35 Joint Strike Fighter (JSF) Decontamination System MDAP project will develop an integrated decontamination containment system and decontaminant delivery system to support the JSF Live Fire Test and Evaluation (LFT&E) to satisfy specific F-35 decontamination requirements through aircraft-unique interfaces and demonstrate the aircraft's ability to meet CB decontamination and survivability requirements.

The JBAD System will provide thorough biological decontamination of the interior and exterior of tactical and cargo aircraft. The JBAD System is a capability set that will include a shelter to encapsulate an airframe, a decontamination delivery system (e.g. hot-humid air-blower, etc.), environmental control and monitoring system(s), and other ancillary components required to ensure efficacious biological agent decontamination. It will provide the capability to decontaminate biologically contaminated airframes to safe levels and allow more rapid return to service.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: 1) CHRP ***FY 2014 Accomplishments:*** Conducted Developmental and Operational testing to support Capabilities Production Document (CPD). Designed and tested a CHRP transfer case variant to support the development of a capabilities and limitations report.	4.376	-	-
Title: 2) MDAP Support JSF DECON SYSTEM ***FY 2014 Accomplishments:*** Completed development, integration and technical support for the Joint Strike Fighter (JSF) Decontamination Sub-assemblies and conducted the System Functionality Demonstration. Performed system modifications and refurbishments and conducted a Limited Demonstration. Completed additional system modifications, integration and technical support in support of the JSF Decontamination System Integration Demonstration.	3.143	-	-
Title: 3) MDAP Support JSF DECON SYSTEM ***FY 2015 Plans:*** Conduct Joint Strike Fighter (JSF) Decontamination System Integration Demonstration and System modification and refurbishment in support of JSF Program Office Live Fire Test and Evaluation (LFT&E). ***FY 2016 Plans:*** Provide engineering and technical support to the JSF Program Office Live Fire Test and Evaluation (LFT&E).	-	1.675	0.394
Title: 4) CIDAS	-	2.221	5.384

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *DECONTAMINATION SYSTEMS (EMD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2015 Plans: Build large scale applicators for Developmental Testing (DT). Initiate DT to include indication level, decontaminant compatibility, detector compatibility, reliability, and natural environments testing. Conduct Preliminary and Critical Design Reviews. ***FY 2016 Plans:*** Continue DT to include indication level, decontaminant compatibility, detector compatibility, equipment compatibility, IPE compatibility, electromagnetic interference, coverage area, natural environmental factors, packaging, and limited shelf life testing. Conduct an Operational Assessment and Technical Manual Validation.			
Title: 5) CIDAS ***FY 2015 Plans:*** Award EMD contract to purchase 50 CIDAS test assets (25 small scale at $1,000 each; 25 mid scale at $1,000 each; 250 gallons of indicator at $236 per gallon) for DT, engineering support for detailed designs and engineering changes, readiness assessments, technical reviews, training, test support, and development of integrated product support deliverables. ***FY 2016 Plans:*** Purchase 800 CIDAS test assets (523 small scale applicators at approximately $381 each; 15 mid scale applicators at $2,885 each and 10 large scale applicators at $6,300 each; 126 mid scale indicator kits at approximately $922 each; and 126 large scale indicator kits at $1844) for DT; fund engineering support for engineering changes, training, test support and development of integrated product support deliverables.	-	0.853	1.332
Title: 6) GPD ***FY 2015 Plans:*** Conduct and complete the final phase of Developmental Testing (DT) to include the Technology Readiness Assessment (TRA), Manufacturing Readiness Assessment (MRA), Joint Integrated Logistics Assessment (JILA), System Verification Review (SVR), Production Readiness Review (PRR), and Logistics Demonstration. ***FY 2016 Plans:*** Initiate and complete Operational Testing (to include MOT&E reporting, Log Demo & First Article Test), conduct and complete second phase of Joint Independent Logistics Assessment (JILA).	-	3.792	2.434
Title: 7) GPD ***FY 2015 Plans:***	-	0.500	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Award base contract to purchase 10,000 gallons of GPD test assets (at $30 per gallon) and data item deliverables for Multi-Service Operational Test and Evaluation (MOT&E).			
Title: 8) JSEW ***FY 2015 Plans:*** Complete DT; conduct and complete Joint Integrated Logistics Assessment (JILA), System Verification Review (SVR), Production Readiness Review (PRR); and initiate Multi-Service Operational Test and Evaluation (MOT&E).	-	1.747	-
Title: 9) JSEW ***FY 2015 Plans:*** Award contract option to purchase 960 JSEW test assets (at $17 each) and data item deliverables for Multi-Service Operational Test and Evaluation (MOT&E), First Article Test (FAT), and Logistics Demonstration.	-	0.200	-
Title: 10) JBAD ***FY 2016 Plans:*** Award EMD Contract for DT assets (2 vendors, 2 systems from each vendor at approximately $1,200,000 each).	-	-	4.824
Title: 11) JBAD ***FY 2016 Plans:*** Initiate developmental testing (DT) to include efficacy and compatibility testing.	-	-	2.376
Title: 12) SBIR/STTR ***FY 2015 Plans:*** SBIR/STTR - FY15 - Small Business Innovative Research.	-	0.158	-
Accomplishments/Planned Programs Subtotals	7.519	11.146	16.744

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
• JD0050: *DECONTAMINATION FAMILY OF SYSTEMS (DFoS)*	-	3.450	7.254	-	7.254	10.037	12.621	20.817	15.874	Continuing	Continuing
• JD0063: *CONTAMINATED HUMAN REMAINS POUCH (CHRP)*	-	3.365	1.542	-	1.542	-	-	-	-	-	4.907

Remarks

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *DECONTAMINATION SYSTEMS (EMD)*

D. Acquisition Strategy

CONTAMINATED HUMAN REMAINS POUCH (CHRP)

The CHRP Government design and manufacture acquisition strategy will leverage current Mortuary Affairs (MA) equipment, such as the Human Remains Pouch (HRP), to identify metrics and performance specifications necessary for the handling of non-contaminated human remains, and expand the performance to fill the identified capability gap for safe handling of contaminated human remains (CHR). CHRP will develop two Government designed systems to meet performance specifications and provide a fielded capability for safe intra-theater handling and transport of CHR. At MS C, an effective and suitable system will be chosen for entry into the Production and Deployment Phase from two candidate systems based on testing results and a cost-benefit analysis. Manufacturing and production will occur at Government facilities. The strategy includes an additional effort under a directed requirement to incorporate a CHRP variant into a system designed to provide a transport capability to return CHR to Continental United States (CONUS).

The Government design strategy will emphasize meeting Key Performance Parameters (KPPs) using design attributes not offered by the commercial sector and materials with existing test data to provide Services two options at different cost and performance points. The CHRP will use EMD Phase testing to determine the capability of Government design candidates to meet the requirements outlined in the MA ICD and the CHRP CDD. At MS C, an effective and suitable system will be chosen for entry into the Production and Deployment Phase from two candidate systems based on testing results and a cost-benefit analysis with input from the user community.

DECONTAMINATION FAMILY OF SYSTEMS (DFoS)

The DFoS is utilizing an incremental acquisition strategy to transition various developmental technology efforts (Commercial-Off-The-Shelf (COTS), and DoD technology efforts) to meet high priority Warfighter capability gaps. DFoS will support Major Defense Acquisition Programs (MDAPs) and Programs of Record by guiding S&T efforts and transitioning mature technologies to meet program requirements.

MAJOR DEFENSE ACQUISITION PROGRAM (MDAP)

The JSF Decontamination System effort will utilize sole source contracting to leverage and integrate commercially available technologies to provide a decontamination delivery system for the Joint Strike Fighter program office in support of the JSF Live Fire Test and Evaluation (LFT&E).

DFoS CONTAMINATION INDICATOR DECONTAMINATION ASSURANCE SYSTEM (DFoS CIDAS)

The CIDAS program will follow an evolutionary acquisition strategy in consonance with the Joint Requirements Office (JRO)/User developed capability documents. Following MS A, collaborated with JSTO/DTRA efforts, including the Hazard Mitigation, Materiel and Equipment Restoration (HaMMER) Advanced Technology Development Operational Demonstration and Extended User Evaluations, and conducted technology demonstrations on candidate indicator and applicator technologies to mitigate risk and identify affordable mature technologies that meet requirements. Determined need for and initiated Government designed large scale applicator to

meet specific User requirements. Following MS B, use full and open competition to award a performance based contract with options for LRIP and FRP for indicator and small and mid scale applicator systems. Integrate and test contractor and Government designs in DT and operational testing.

DFoS GENERAL PURPOSE DECONTAMINANT (DFoS GPD)

Due to the maturity levels of the systems entering the Technology Development (TD) phase, the Milestone Decision Authority (MDA) issued an Acquisition Decision Memorandum (ADM) which approved GPD to by-pass Milestone (MS) B and enter directly to MS C Low Rate Initial Production (LRIP). During the TD Phase (which includes CP I, CP II), the GPD Program employed a Competitive Prototyping (CP) effort to facilitate the evaluation of Commercial Off The Shelf (COTS) technologies releasing an Request for Proposal (RFP) as a combined synopsis/solicitation for commercial and Non-Developmental Items (NDI), utilizing full and open competition. As the GPD program enters the final phase of Technology Development (Developmental Test), the program will continue to follow an evolutionary acquisition strategy. The production contract in support of MS C is a single award for LRIP with four option years for FRP, using Full and Open Competition in accordance with FAR Subpart 6.1. This strategy ensures that all prospective sources, with the capability of meeting the program requirements, have the opportunity to participate.

DFoS JOINT SENSITIVE EQUIPMENT WIPE (DFoS JSEW)

Due to the maturity levels of the systems entering the Technology Development (TD) phase, the Milestone Decision Authority (MDA) issued an Acquisition Decision Memorandum (ADM) which approved JSEW to pursue a Milestone (MS) A to MS C Low Rate Initial Production (LRIP) acquisition strategy. During the TD Phase (which includes CP I, CP II), the JSEW Program employed a Competitive Prototyping (CP) effort to facilitate the evaluation of Commercial Off The Shelf (COTS) technologies releasing an Request for Proposal (RFP) as a combined synopsis/solicitation for commercial and Non-Developmental Items (NDI), utilizing full and open competition. As the JSEW program enters the final phase of Technology Development (Developmental Test), the program will continue to follow an evolutionary acquisition strategy. The JSEW acquisition strategy to support upcoming JSEW contracting efforts for DT, LRIP, and FRP is a single contract award for DT, with options for LRIP and FRP, using Full and Open Competition in accordance with FAR Subpart 6.1. This strategy ensures that all prospective sources, with the capability of meeting the contract requirements, have the opportunity to participate.

JOINT BIOLOGICAL AGENT DECONTAMINATION SYSTEM (JBAD)

The JBAD System program will leverage the Joint Biological Agent Decontamination System Joint Capability Technology Demonstration to mature and deliver incremental capabilities to meet Air Mobility Command and US Transportation Command needs for interior and exterior decontamination of aircraft against biological agents. The JBAD will employ full and open competition and competitive prototyping during the Engineering Manufacturing and Development (EMD) phase.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *DECONTAMINATION SYSTEMS (EMD)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** CHRP - HW S - Design and Manufacture	MIPR	US Army Natick Soldier RD&E Center : Natick, MA	0.161	0.556	Dec 2013	-		-		-		-	Continuing	Continuing	-
** DFoS - HW SB - JSF Decontamination System Delivery System	SS/FFP	STERIS Corporation : Mentor, OH	0.319	0.478	Jun 2014	-		-		-		-	Continuing	Continuing	-
HW SB - JSF Decontamination System Shelter and Heater	SS/FFP	HDT Global : Fredericksburg, VA	0.418	0.505	Jun 2014	-		-		-		-	Continuing	Continuing	-
HW SB - JSF Decontamination System Liner	SS/FFP	Production Products Inc. : St Louis, MO	0.977	0.591	Jun 2014	-		-		-		-	Continuing	Continuing	-
** MDAP - HW SB - JSF Decontamination Delivery System	SS/FFP	STERIS Corporation : Mentor, OH	0.000	-		0.300	Jan 2015	-		-		-	Continuing	Continuing	-
HW SB - JSF Decontamination Shelter and Heater	SS/FFP	HDT Global : Fredericksburg, VA	0.000	-		0.332	Jan 2015	-		-		-	Continuing	Continuing	-
HW SB - JSF Decontamination System Liner #2	SS/FFP	Production Products Inc. : St Louis, MO	0.000	-		0.364	Jan 2015	-		-		-	Continuing	Continuing	-
** DFoS CIDAS - HW S - Test Assets	C/FPIF	TBD :	0.000	-		0.853	Feb 2015	0.757	Nov 2015	-		0.757	Continuing	Continuing	-
HW S - Large Scale Applicator	MIPR	TBD :	0.000	-		-		0.575	Nov 2015	-		0.575	Continuing	Continuing	-
** DFoS GPD - HW S - Test Assets	C/CPFF	TBD :	0.000	-		0.500	Apr 2015	-		-		-	Continuing	Continuing	-
** DFoS JSEW - HW S - Test Assets	C/FFP	TBD :	0.000	-		0.200	Dec 2014	-		-		-	Continuing	Continuing	-
** JBAD - HW S - Hardware and Engineering	C/FFP	TBD :	0.000	-		-		4.824	May 2016	-		4.824	Continuing	Continuing	-
		Subtotal	1.875	2.130		2.549		6.156		-		6.156	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) DE5 / *DECONTAMINATION SYSTEMS (EMD)*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** CHRP - TD/D S - IPT and Technical Support	MIPR	Various :	0.353	0.811	Jan 2014	-		-		-		-	Continuing	Continuing	-
** DFoS - TD/D SB - IPT and Technical Support	MIPR	Various :	3.026	1.569	May 2014	-		-		-		-	Continuing	Continuing	-
** MDAP - TD/D SB - IPT and Technical Support	MIPR	Various :	0.000	-		0.334	Jan 2015	0.315	Oct 2015	-		0.315	Continuing	Continuing	-
** DFoS CIDAS - TD/D S - IPT and Technical Support	MIPR	Various :	0.000	-		0.730	Feb 2015	1.075	Nov 2015	-		1.075	Continuing	Continuing	-
** DFoS GPD - TD/D S - IPT and Technical Support	MIPR	Various :	0.000	-		0.778	Nov 2014	0.600	Oct 2015	-		0.600	Continuing	Continuing	-
** DFoS JSEW - TD/D S - IPT and Technical Support	MIPR	Various :	0.000	-		0.268	Nov 2014	-		-		-	Continuing	Continuing	-
** JBAD - TD/D S - IPT and Technical Support	MIPR	Various :	0.000	-		-		0.562	Apr 2016	-		0.562	Continuing	Continuing	-
** ZSBIR - SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	TBD :	0.000	-		0.158		-		-		-	Continuing	Continuing	-
		Subtotal	3.379	2.380		2.268		2.552		-		2.552	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** CHRP - DTE S - Developmental and Operational Testing and Reporting	MIPR	Various :	0.000	2.686	Dec 2013	-		-		-		-	Continuing	Continuing	-
** DFoS CIDAS - DTE S - Live Agent / Lab Testing	MIPR	Various :	0.000	-		0.797	Feb 2015	2.949	Oct 2015	-		2.949	Continuing	Continuing	-
** DFoS GPD - OTE S - Operational Testing	MIPR	Various :	0.000	-		2.133	Nov 2014	1.305	Oct 2015	-		1.305	Continuing	Continuing	-
** DFoS JSEW - OTE S -	MIPR	Various :	0.000	-		1.080	Nov 2014	-		-		-	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) DE5 / *DECONTAMINATION SYSTEMS (EMD)*	

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** JBAD - DTE S - Developmental Testing	MIPR	Various :	0.000	-		-		0.356	Aug 2016	-		0.356	Continuing	Continuing	-
		Subtotal	0.000	2.686		4.010		4.610		-		4.610	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** CHRP - PM/MS S - Program Management and Technical Support	MIPR	Various :	0.391	0.323	Sep 2014	-		-		-		-	Continuing	Continuing	-
** MDAP - PM/MS SB - Program Management and Technical Support	MIPR	Various :	0.000	-		0.345	Jan 2015	0.079	Oct 2015	-		0.079	Continuing	Continuing	-
** DFoS CIDAS - PM/MS S - Program Management and Technical Support	MIPR	Various :	0.000	-		0.694	Feb 2015	1.360	Oct 2015	-		1.360	Continuing	Continuing	-
** DFoS GPD - PM/MS S - Program Management and Technical Support	MIPR	Various :	0.000	-		0.881	Jan 2015	0.529	Oct 2015	-		0.529	Continuing	Continuing	-
** DFoS JSEW - PM/MS S - Program Management and Technical Support	MIPR	Various :	0.000	-		0.399	Jan 2015	-		-		-	Continuing	Continuing	-
** JBAD - PM/MS S - Program Management & Tech Support	MIPR	Various :	0.000	-		-		1.458	Apr 2016	-		1.458	Continuing	Continuing	-
		Subtotal	0.391	0.323		2.319		3.426		-		3.426	-	-	-

	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	5.645	7.519		11.146		16.744		-		16.744	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) DE5 / *DECONTAMINATION SYSTEMS (EMD)*	

	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

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *DECONTAMINATION SYSTEMS (EMD)*

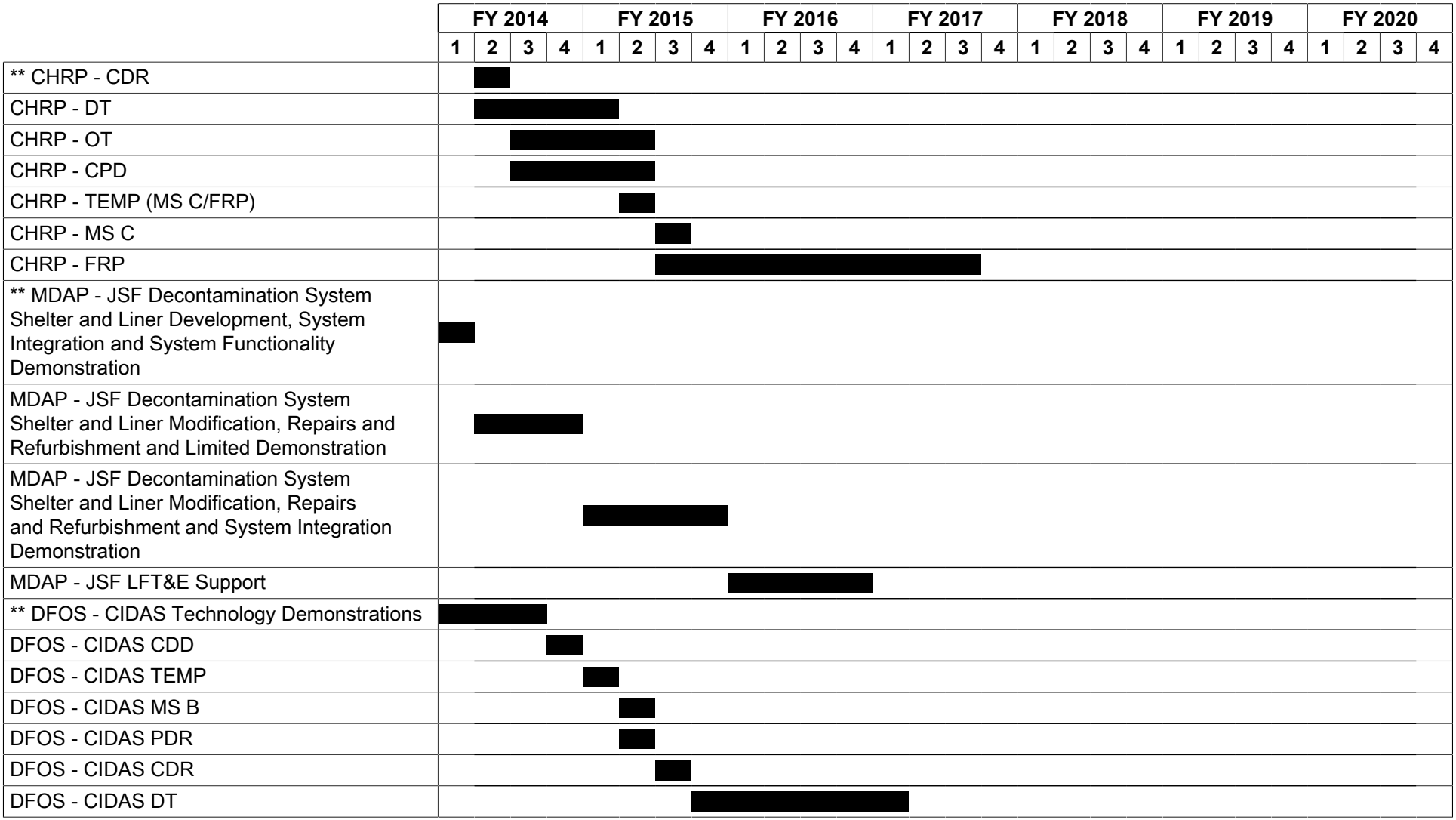

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *DECONTAMINATION SYSTEMS (EMD)*

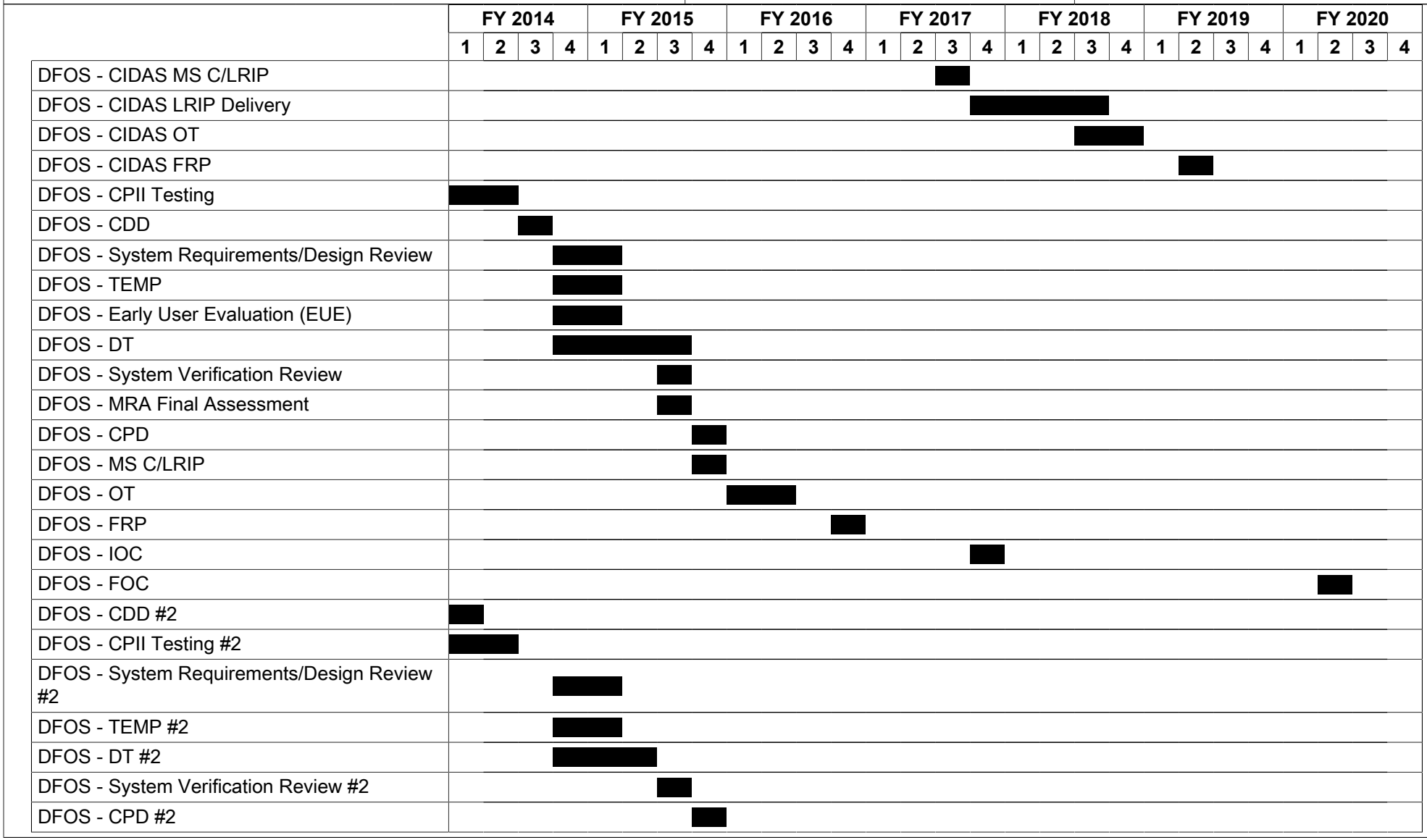

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *DECONTAMINATION SYSTEMS (EMD)*

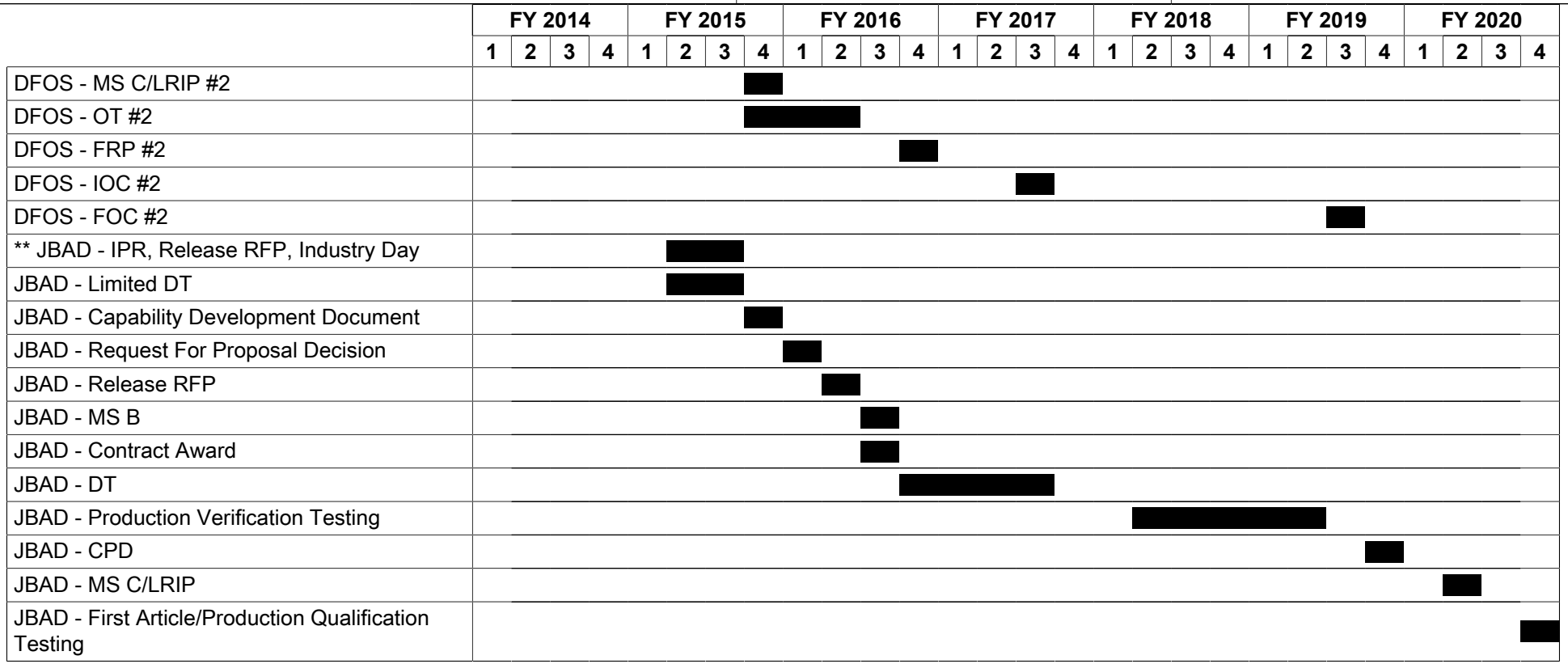

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** DE5 / *DECONTAMINATION SYSTEMS (EMD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
** CHRP - CDR	2	2014	2	2014
CHRP - DT	2	2014	1	2015
CHRP - OT	3	2014	2	2015
CHRP - CPD	3	2014	2	2015
CHRP - TEMP (MS C/FRP)	2	2015	2	2015
CHRP - MS C	3	2015	3	2015
CHRP - FRP	3	2015	3	2017
** MDAP - JSF Decontamination System Shelter and Liner Development, System Integration and System Functionality Demonstration	1	2014	1	2014
MDAP - JSF Decontamination System Shelter and Liner Modification, Repairs and Refurbishment and Limited Demonstration	2	2014	4	2014
MDAP - JSF Decontamination System Shelter and Liner Modification, Repairs and Refurbishment and System Integration Demonstration	1	2015	4	2015
MDAP - JSF LFT&E Support	1	2016	4	2016
** DFOS - CIDAS Technology Demonstrations	1	2014	3	2014
DFOS - CIDAS CDD	4	2014	4	2014
DFOS - CIDAS TEMP	1	2015	1	2015
DFOS - CIDAS MS B	2	2015	2	2015
DFOS - CIDAS PDR	2	2015	2	2015
DFOS - CIDAS CDR	3	2015	3	2015
DFOS - CIDAS DT	4	2015	1	2017
DFOS - CIDAS MS C/LRIP	3	2017	3	2017
DFOS - CIDAS LRIP Delivery	4	2017	3	2018

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
DFOS - CIDAS OT	3	2018	4	2018
DFOS - CIDAS FRP	2	2019	2	2019
DFOS - CPII Testing	1	2014	2	2014
DFOS - CDD	3	2014	3	2014
DFOS - System Requirements/Design Review	4	2014	1	2015
DFOS - TEMP	4	2014	1	2015
DFOS - Early User Evaluation (EUE)	4	2014	1	2015
DFOS - DT	4	2014	3	2015
DFOS - System Verification Review	3	2015	3	2015
DFOS - MRA Final Assessment	3	2015	3	2015
DFOS - CPD	4	2015	4	2015
DFOS - MS C/LRIP	4	2015	4	2015
DFOS - OT	1	2016	2	2016
DFOS - FRP	4	2016	4	2016
DFOS - IOC	4	2017	4	2017
DFOS - FOC	2	2020	2	2020
DFOS - CDD #2	1	2014	1	2014
DFOS - CPII Testing #2	1	2014	2	2014
DFOS - System Requirements/Design Review #2	4	2014	1	2015
DFOS - TEMP #2	4	2014	1	2015
DFOS - DT #2	4	2014	2	2015
DFOS - System Verification Review #2	3	2015	3	2015
DFOS - CPD #2	4	2015	4	2015
DFOS - MS C/LRIP #2	4	2015	4	2015
DFOS - OT #2	4	2015	2	2016

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
DFOS - FRP #2	4	2016	4	2016
DFOS - IOC #2	3	2017	3	2017
DFOS - FOC #2	3	2019	3	2019
** JBAD - IPR, Release RFP, Industry Day	2	2015	3	2015
JBAD - Limited DT	2	2015	3	2015
JBAD - Capability Development Document	4	2015	4	2015
JBAD - Request For Proposal Decision	1	2016	1	2016
JBAD - Release RFP	2	2016	2	2016
JBAD - MS B	3	2016	3	2016
JBAD - Contract Award	3	2016	3	2016
JBAD - DT	4	2016	3	2017
JBAD - Production Verification Testing	2	2018	2	2019
JBAD - CPD	4	2019	4	2019
JBAD - MS C/LRIP	2	2020	2	2020
JBAD - First Article/Production Qualification Testing	4	2020	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program											Date: February 2015	
Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*				Project (Number/Name) IP5 / *INDIVIDUAL PROTECTION (EMD)*			
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**
IP5: *INDIVIDUAL PROTECTION (EMD)*	-	24.989	15.435	19.439	-	19.439	14.262	11.524	11.610	1.799	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides Engineering & Manufacturing Development Phase and Low Rate Initial Production (EMD/LRIP) for individual protection equipment, with the goal of providing equipment that allows the individual soldier, sailor, airman, or Marine to operate in a contaminated Nuclear, Biological and Chemical (NBC) environment with little or no degradation of his/her performance. Experimentation and demonstration will be used in this phase to reduce risk and inform supporting materiel solutions, CONOPS and TTPs.

Included in this program are:

(1) The Joint Service Aircrew Mask (JSAM) for Tactical Aircraft (TA), Strategic Aircraft (SA), Joint Strike Fighter (JSF), and Rotary Wing (RW) are Acquisition Category (ACAT) III programs developed to provide respiratory and ocular protection. The JSAM will be a lightweight chemical and biological (CB) protective mask that will be worn as CB protection for most Army, Air Force, Navy and Marine Corps fixed wing (FW) and RW aircrew members. All JSAM variants will be compatible with most below-the-neck (BTN) CB protection ensembles and existing aircrew life support equipment (ALSE). They will include a protective hood assembly, CB filter, blower assembly, and an intercom for ground communication. They will also provide flame protection, demist/emergency demist, and anti-drowning features. The goal of the JSAM programs is to develop, manufacture, field, and sustain an aircrew respirator system that, in conjunction with BTN clothing ensembles, will provide the capability for all aircrew to operate in an actual or perceived CB warfare environment.

In FY14, the JSAM FW program was separated into two programs: JSAM TA and JSAM SA. The JSAM TA and SA respirators are being developed for use in the majority of DoD FW aircraft except for the F-35 JSF. The JSAM TA program will provide CB and anti-G protection up to nine times the vertical force (Gz), for aircrew in high-performance aircraft. The JSAM SA program will be used in aircrew positions that do not require anti-G protection and provide CB protection for positions that only need pressure breathing for altitude.

The JSAM-JSF is a CB respirator being specifically designed to support the F-35. It is designed to ensure that system integration and qualification of CB protection and survivability requirements are achieved as derived from the JSF Operational Requirements Document. Prior to FY15, this project was funded under the JSAM funding line. When integrated with aircraft and pilot mounted equipment, the JSAM-JSF will provide combined CB, hypoxia and anti-G protection to all F-35 users, including the United States Air Force (USAF), Navy (USN), Marine Corps (USMC), and International Partners.

The JSAM MPU-5 RW mask is being developed for use by pilots and aircrew in the majority of DoD RW aircraft in the United States Army (USA) except AH-64 users, USAF, USN, USMC, and United States Coast Guard (USCG). The JSAM RW will integrate with most BTN CB ensembles, normal aircrew flight equipment, and RW flight helmets. The system contains a removable face plate, allowing the user to fly "face free" in Mission Oriented Protective Posture (MOPP) 2 (garment and boots)

and easily convert to MOPP 3 (garment, boots, and mask) when the threat level dictates, thereby reducing physiological burden and improving field of view. If threat level warrants, the user can install their face plate into an already donned hood and enter MOPP 4 without removing their flight helmet.

(2) The Joint Service General Purpose Mask (JSGPM) Advanced Respiratory Protection Initiative (ARPI) will address improved mask protection, filter protection against Toxic Industrial Chemicals (TIC)/Toxic Industrial Materials (TIM) and improved profile and breathing resistance; and wearability compatibility/integration. This will be accomplished through class-based analysis, Filtration Advanced Screening Test (FAST), desorption study, and advanced Chemical, Biological, Radiological, and Nuclear (CBRN) filtration efforts. Several technologies are being pursued by the Joint Science and Technology Office (JSTO), with two specific technologies being pursued in the FY14-16 timeframe. The JSGRPM 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. The JSGPM APRI effort will also investigate various applications of nanofiber particulate media.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: 1) JSAM SA ***FY 2016 Plans:*** Complete Design Verification Testing (DVT), including flight tests on the E-3 and P-3C aircraft. Conduct System Verification Review (SVR), Production Readiness Review (PRR), and Physical Configuration Audit (PCA). Initiate preliminary events leading to operational testing (OT), and initiate OT. Develop and finalize the Operational Test Agency (OTA) Milestone Assessment Report (OMAR), conduct the Logistics Demonstration, finalize the Technical Manual (TM) and complete the Joint Integrated Logistics Assessment (JILA).	-	-	5.690
Title: 2) JSAM TA ***FY 2016 Plans:*** Continue with comparative gate testing for the full and open contract and award contract to the JSAM TA selected vendor. Purchase 100 masks at an estimated unit cost of $13,000.00 for use in Operational Tests (OT) and integration events. Conduct OT and integration events with JSAM TA platforms, and achieve Milestone C/Low Rate Initial Production decision.	-	-	6.110
Title: 3) JSAM JSF ***FY 2015 Plans:*** Complete Quantitative Fit Factor (QFF) testing, Simulant Agent Resistance Test Manikin (SMARTMAN) testing, Man in Simulant Test (MIST), Filter testing, Thermal Stress testing, and F-35 chemical/biological SDD flights. Conduct System Verification and	-	1.747	3.155

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Production Readiness Reviews leading to a Low Rate Initial Production decision. Provide product development support to the JSF program office in support of the Chemical and Biological Live Fire Test and Evaluation (LFT&E). ***FY 2016 Plans:*** Conduct follow-on Developmental Testing (DT) and initiate LFT&E planning.			
Title: 4) JSAM SA ***FY 2014 Accomplishments:*** Drafted, staffed, and obtained approval for the Test and Evaluation Master Plan (TEMP) and Life Cycle Sustainment Plan (LCSP). Conducted a design review to close-out the preliminary design phase. Fabricated prototype tooling and built 85 Design Verification Testing (DVT) assets at a unit cost of $1,900.00. Initiated DVT and continued early DT to verify a limited set of MM53 requirements. Completed Lifecycle Management Plan (LCMP), Systems Engineering Plan (SEP), Risk Management Plan (RMP), and System Safety Management Plan (SSMP). Conducted several studies using current Service aircrew to determine comfort levels and integration performance while wearing helmets and other equipment. Initiated the Joint Integrated Logistics Assessment (JILA) process and attained final approval of the JSAM Strategic Aircraft (SA) Critical Design Document (CDD). ***FY 2015 Plans:*** Complete DVT. Continue early DT and initiate system-level testing. Conduct the Critical Design Review (CDR) and Manufacturing Readiness Assessment (MRA), and complete the final design phase and Production Readiness Review (PRR). Initiate production tooling and build 265 assets (200 for DT and 65 for other users) at a unit cost of $1,900.00 each. Complete draft Technical Manual.	5.775	5.142	-
Title: 5) JSAM RW ***FY 2014 Accomplishments:*** Continued airworthiness testing on US Army (USA), US Air Force (USAF), US Navy (USN), and US Marine Corps (USMC) aircraft platforms. Initiated developmental testing on USN/USMC helmet sighting systems and assessment of integration capabilities with Optimized Top Owl aircraft. Completed water survivability testing. Prepared documentation for LRIP contract award. Refurbished Production Qualification Test assets for use in USA and USAF Multi Service Operational Test and Evaluation (MOT&E). ***FY 2015 Plans:*** Conduct and complete MOT&E for USA and USAF. Initiate and complete USN aircraft integration testing. Continue airworthiness testing and obtain airworthiness releases for USA and USAF rotary wing aircraft. Conduct technical reviews in advance of Full Rate Production decision. Take receipt of the Technical Data Package. ***FY 2016 Plans:***	5.965	2.000	4.484

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Conduct and complete USN/USMC MOT&E and USN shipboard flight testing. Complete USN airworthiness testing and obtain airworthiness releases for the USN rotary wing aircraft.			
Title: 6) JSAM TA ***FY 2014 Accomplishments:*** Purchased 46 modified A/P22P-14(A)V3 test assets at $12,346.00 each, completed flame resistance testing, and initiated Safe-to-Fly Certification activities for the F-22. Conducted performance envelope characterization, component level design review, released Request for Information (RFI) to industry, and received final approval of the JSAM Tactical Aircraft (TA) Capability Development Document (CDD). ***FY 2015 Plans:*** Continue testing the ECP respirator for both the USAF F-22 Readiness requirement and provide test data for risk reduction. Release Requests For Proposals (RFP) and conduct source selection. Purchase 50 assets from each vendor at an estimated unit cost of $13,000.00 to conduct user evaluation and comparative gate testing. Initiate MS C decision preparation and documentation, and award production option to the JSAM TA selected candidate.	5.313	5.368	-
Title: 7) JSAM JSF ***FY 2014 Accomplishments:*** Conducted a CDR and CDR assessment, Test Readiness Review (TRR), JILA, initiated DT and conducted a Logistics Demonstration. Purchased 62 flight kits at a unit cost of $12,654.00 and 21 ground kits at a unit cost of $7,610.00.	5.258	-	-
Title: 8) JSGPM (ARPI) ***FY 2014 Accomplishments:*** Continued Bed Design Analysis for Cobalt-Zinc, zirconium hydroxide, Argentum (Silver), TEDA (triethylene diamine)(CoZZAT) technology. CoZZAT leverages an existing technology developed under a Defense Thread Reduction Agency (DTRA)/JSTO funded program with proven ability to outperform previous filtration capabilities in its power to remove traditional military blood and choking compounds, as well as acidic/acid-forming, toxic industrial chemicals (TIC) such as chlorine, hydrogen chlorine and sulfur dioxide. CoZZAT is a layered bed of carbon concept being developed to improve TIC and chemical warfare agent (CWA) protection capabilities. ***FY 2015 Plans:*** Continue and complete refinement of technical data and manufacturing process controls for the CoZZAT material.	2.036	0.992	-
Title: 9) JSGPM ***FY 2014 Accomplishments:***	0.642	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Initiated National Institute for Occupational Safety and Health (NIOSH) certification for the M53 mask to create a M53A1. Awarded task order on prime contract to investigate ability of the M53 mask to obtain NIOSH certification for Full-Facepiece Air Purifying Respirators (APR) for use in Chemical, Biological, Radiological, and Nuclear (CBRN) agents.			
Title: 10) SBIR/STTR ***FY 2015 Plans:*** SBIR/STTR - FY15 - Small Business Innovative Research.	-	0.186	-
Accomplishments/Planned Programs Subtotals	24.989	15.435	19.439

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
• JI0002: *JS AIRCREW MASK (JSAM)*	0.413	11.526	24.630	-	24.630	54.447	61.961	55.136	50.374	Continuing	Continuing
• MA0401: *CBRN UNIFORM INTEGRATED PROTECTION ENSEMBLE (UIPE)*	15.772	6.948	11.101	-	11.101	11.101	11.101	14.000	16.000	Continuing	Continuing

Remarks

D. Acquisition Strategy

JS AIRCREW MASK FIXED WING (JSAM FW)

The overall JSAM acquisition approach is phased due to the complexity of interfacing with almost 200 aircraft types and models with different mission sets, Aviation Life Support Equipment (ALSE), cockpit layouts, priorities, etc. JSAM will pursue two materiel solutions for fixed wing aircraft via; the JSAM for Tactical Aircraft (TA) and JSAM for Strategic Aircraft (SA) programs. JSAM TA and SA must be compatible with current CB ensembles and provide flame protection and will replace all existing Pressure Breathing for Gravity (PBG) and non-PBG CB aircrew respirators. The JSAM TA (A/P22P-14A) utilizes a phased acquisition strategy to provide aircrew of all Services with individual head-eye-respiratory protection against Chemical-Biological (CB) warfare agents. The JSAM TA effort will test the Pressure Breathing for Gravity (PBG) Mask to aircraft platforms. The JSAM SA (Modified M53 (MM53)) effort will test and field a mask for aircrew positions not requiring PBG capabilities. This contract was awarded via sole source to Avon Protection Systems, Cadillac, Michigan to modify and field a commercially available mask (M53).

JS AIRCREW MASK ROTARY WING (JSAM RW)

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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The respirator is being developed under a competitive Cost Plus Fixed Fee contract, which is also used by JSAM Apache and Apache Block III. A sole source Fixed Price Indefinite Delivery/Indefinite Quantity (IDIQ) will be awarded for LRIP and will include options for spare parts, Full Rate Production, and Apache Block III upgrades.

JS AIRCREW MASK FIXED WING STRATEGIC AIRCRAFT (JSAM SA)

The JSAM SA acquisition approach involves modifying the fielded M53 ground mask design in order to add Pressure Breathing for Altitude (PBA), up to 40,000 feet above sea-level, and middle ear equalization capabilities. The JSAM SA mask is intended to be fielded to the United States Air Force (USAF), United States Navy (USN), United States Marine Corps (USMC), United States Army (USA), and United States Coast Guard (USCG).

The overall acquisition strategy is to initially produce and field the JSAM SA masks in four LRIP phases. This phased approach will allow the JSAM SA mask to be fielded to aircrew of the most applicable aircrafts in the shortest amount of time. At the end of each LRIP phase, the aircraft associated with each phase will have achieved an Initial Operating Capability (IOC) with the JSAM SA mask. The remaining aircrew, not given a JSAM SA mask during the LRIP phases, will receive their masks after FRP. At the end of FRP, the Services will have achieved their Full Operating Capability (FOC) with the mask. LRIP 1 will consist of fielding the JSAM SA mask to most of the USAF E-3 and USN P-3C aircrew. Based on technical difficulty and mission need, the JSAM SA program will work with the Services to determine which LRIP phase (i.e. 2, 3, or 4) will include the remaining aircraft.

The overall test strategy involves four major phases. The first test phase consists of Design Verification Testing (DVT) which will evaluate developmental prototype masks prior to CDR. The second test phase is Developmental Testing (DT) to support Milestone C/LRIP. The third test phase is Operational Testing (OT) of LRIP assets to support IOC fielding to USAF E-3 and USN P-3C aircrew. The final test phase is combined DT/OT for the LRIPs 2, 3, and 4.

The contract strategy consists of two sole-source contracts with Avon Protection Systems, the manufacturer of the base M53 mask. The first contract, which was awarded on 31 July 2013, covers all activities during Engineering, Manufacturing, and Development (EMD) phase. The second contract, which is planned to be awarded after Milestone C/LRIP, will cover the activities during the Production and Deployment (PD) phase including all LRIP and FRP builds.

JS AIRCREW MASK FIXED WING TACTICAL AIRCRAFT (JSAM TA)

The JSAM TA planned solution for the USAF F-22 Readiness requirement is an integration effort and an Engineering Change Proposal (ECP) to the Navy's A/P22P-14(A). The ECP will provide CB-protection capability to F-22 pilots while providing valuable test data to be used to evaluate potential candidates for the JSMA TA solution. The JSAM TA program plans to pursue a full-and-open competition for the production contract to cover Low Rate Initial Production (LRIP) and Full Rate Production (FRP). Comparative gate testing will be conducted to support the source selection process for the full and open competition. The Government plans to competitively award one, Firm Fixed Price (FFP) Incentive contract with an option for production. Subsequent integration efforts will be completed for each aircraft platform.

JS AIRCREW MASK JOINT STRIKE FIGHTER (JSAM JSF)

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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JSAM-JSF is specifically designed for the F-35 (Joint Strike Fighter) to be incorporated within the JSF platform and fielded to US Services and international partners. JSAM-JSF is being developed concurrently with other JSF equipment including life support and pilot flight equipment. JSAM-JSF initially leveraged a JSAM-FW design and shared the same base contract with a Cost Plus Incentive Fee delivery order.

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

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** JSAM - HW S - JSAM-JSF Engineering and Manufacturing Contract	C/CPIF	GENTEX Corp. : Rancho Cucamonga, CA	0.000	-		0.300	Dec 2014	0.530	Jan 2016	-		0.530	Continuing	Continuing	-
HW S - JSAM SA Modified M53 - Design Modification and Development	SS/CPFF	AVON Protection Systems Inc. : Cadillac, MI	0.000	-		-		0.075	Aug 2016	-		0.075	Continuing	Continuing	-
JSAM RW - HW S - MBU-5 Engineering and Manufacturing Contract	C/CPFF	AVOX Systems Inc. : Lancaster, NY	2.278	1.452	Jan 2014	-		-		-		-	Continuing	Continuing	-
JSAM SA - HW S - Modified M53 - Design Modification and Development	SS/CPFF	AVON Protection Systems Inc. : Cadillac, MI	2.389	2.504	Feb 2014	0.624	Jan 2015	-		-		-	Continuing	Continuing	-
JSAM TA - HW C - AP22P-14(A) - Mask/ Respirators/System Components	SS/FFP	Cam Lock Limited : Aldershot Hampshire, UK	0.322	1.661	Jun 2014	-		-		-		-	Continuing	Continuing	-
JSAM TA - HW S - Vendor A - Candidate 1	C/FPIF	TBD :	0.000	-		0.650	Jun 2015	-		-		-	Continuing	Continuing	-
JSAM TA - HW S - Vendor B - Candidate 2	C/FPIF	TBD :	0.000	-		0.650	Jun 2015	-		-		-	Continuing	Continuing	-
JSAM-JSF - HW S - Engineering and Manufacturing Contract	C/CPIF	GENTEX Corp. : Rancho Cucamonga, CA	2.768	3.100	Jan 2014	-		-		-		-	Continuing	Continuing	-
JSAM TA - HW S - Mask	C/FPIF	TBD :	0.000	-		-		1.300	Jan 2016	-		1.300	Continuing	Continuing	-
** JSGPM - HW C - NIOSH Certification	C/FFP	AVON Protection Systems Inc. : Cadillac, MI	0.000	0.642	Jul 2014	-		-		-		-	Continuing	Continuing	-
HW C - ZZAT Filters	C/CPFF	3M Canada : Brockville Ontario, CN	0.000	0.331	Aug 2014	-		-		-		-	Continuing	Continuing	-
		Subtotal	7.757	9.690		2.224		1.905		-		1.905	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program			Date: February 2015
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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
** JSAM - JSAM RW - ES S - MBU-5 Integrated Product Team/ Engineering/Technical Support	MIPR	Various :	1.526	2.376	Mar 2014	0.130	Dec 2014	0.681	Dec 2015	-		0.681	Continuing	Continuing	-
JSAM TA - ES S - Engineering Support	MIPR	Various :	0.000	-		-		1.350	Nov 2015	-		1.350	Continuing	Continuing	-
ES S - JSAM-JSF Engineering Support	MIPR	Various :	0.000	-		0.906	Jan 2015	0.800	Jan 2016	-		0.800	Continuing	Continuing	-
JSAM SA - ES S -MM53 - Engineering and IPT Support	MIPR	Various :	1.712	2.262	Jan 2014	2.084	Jan 2015	-		-		-	Continuing	Continuing	-
JSAM SA - TD/D S - Logistics Demonstration	MIPR	Various :	0.000	-		-		0.150	Oct 2015	-		0.150	Continuing	Continuing	-
JSAM TA - ES S - Engineering Support #2	MIPR	Various :	1.401	2.253	Feb 2014	0.914	Jan 2015	-		-		-	Continuing	Continuing	-
JSAM SA - ES S - Engineering and IPT Support	MIPR	Various :	0.000	-		-		2.269	Jan 2016	-		2.269	Continuing	Continuing	-
JSAM-JSF - ES S - Engineering Support	MIPR	Various :	0.901	1.285	Jan 2014	-		-		-		-	Continuing	Continuing	-
JSAM-JSF - ES S - USAF Technical/Engineering Support	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.000	0.100	Jun 2014	-		-		-		-	Continuing	Continuing	-
** JSGPM - TD/D SB - JSGPM Filter	MIPR	Various :	0.677	0.609	Dec 2013	0.317	Jan 2015	-		-		-	Continuing	Continuing	-
ES C - Filter	MIPR	Naval Research Lab (NRL) : Washington, DC	0.350	-		0.050	Jan 2015	-		-		-	Continuing	Continuing	-
** ZSBIR - SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	TBD :	0.000	-		0.186		-		-		-	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	6.567	8.885		4.587		5.250		-		5.250	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** JSAM - JSAM RW - DTE S - MBU-5 Developmental Test and Evaluation	MIPR	Various :	2.134	1.614	Feb 2014	-		-		-		-	Continuing	Continuing	-
JSAM TA - OTHT C - Operational Testing and Integration	MIPR	Various :	0.000	-		-		2.700	Oct 2015	-		2.700	Continuing	Continuing	-
JSAM RW - OTE S - MOT&E	MIPR	Various :	0.000	-		1.582	Dec 2014	1.848	Dec 2015	-		1.848	Continuing	Continuing	-
JSAM SA - DTE S - MM53 - Developmental Testing	MIPR	Various :	0.034	1.010	Jan 2014	1.902	Jan 2015	-		-		-	Continuing	Continuing	-
JSAM SA - OTE S - Operational Testing	MIPR	Various :	0.000	-		-		1.375	Oct 2015	-		1.375	Continuing	Continuing	-
JSAM SA - DTE S - Developmental Testing	MIPR	Various :	0.000	-		-		0.669	Oct 2015	-		0.669	Continuing	Continuing	-
JSAM TA - DTE S - AP22P-14(A) - Developmental Testing	MIPR	Various :	0.152	1.157	Feb 2014	2.544	Jan 2015	-		-		-	Continuing	Continuing	-
JSAM JSF - OTE S - LFT&E	MIPR	Various :	0.000	-		0.200	Jan 2015	0.622	Jan 2016	-		0.622	Continuing	Continuing	-
JSAM JSF - DTE S - Follow-On DT	MIPR	Various :	0.000	-		-		0.200	Jan 2016	-		0.200	Continuing	Continuing	-
JSAM-JSF - DTE S - Developmental Testing	MIPR	Various :	0.607	0.772	Jan 2014	-		-		-		-	Continuing	Continuing	-
** JSGPM - DTE SB - JSGPM Filter Testing	MIPR	Various :	2.906	0.690	Dec 2013	0.433	Jan 2015	-		-		-	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IP5 / *INDIVIDUAL PROTECTION (EMD)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
		Subtotal	5.833	5.243		6.661		7.414		-		7.414	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** JSAM - JSAM JSF - PM/MS C - Program Management and Technical Support	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.000	-		0.341	Jan 2015	1.003	Jan 2016	-		1.003	Continuing	Continuing	-
JSAM SA - PM/MS C - JSAM MM53 - Program Management and Technical Support	Various	Various :	0.210	-		0.921	Dec 2014	-		-		-	Continuing	Continuing	-
JSAM RW - PM/MS C - MBU-5 Program Management and Technical Support	Various	Various :	0.976	0.523	Mar 2014	0.288	Dec 2014	1.955	Dec 2015	-		1.955	Continuing	Continuing	-
JSAM TA - PM/MS S - Program and Technical Management	MIPR	Various :	0.000	-		-		0.760	Nov 2016	-		0.760	Continuing	Continuing	-
JSAM SA - PM/MS S - Program Management and Technical Support Services	MIPR	Various :	0.000	-		-		1.152	Jan 2016	-		1.152	Continuing	Continuing	-
JSAM TA - PM/MS C - JSAM AP22P-14(A) - Program Management and Technical Support	Various	Various :	0.733	0.242	Mar 2014	0.221	Dec 2015	-		-		-	Continuing	Continuing	-
** JSGPM - PM/MS C - Program Management and Technical Support	MIPR	Various :	0.650	0.406	Mar 2014	0.192	Jan 2015	-		-		-	Continuing	Continuing	-
		Subtotal	2.569	1.171		1.963		4.870		-		4.870	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) IP5 / *INDIVIDUAL PROTECTION (EMD)*	

	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	22.726	24.989		15.435		19.439		-		19.439	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IP5 / *INDIVIDUAL PROTECTION (EMD)*

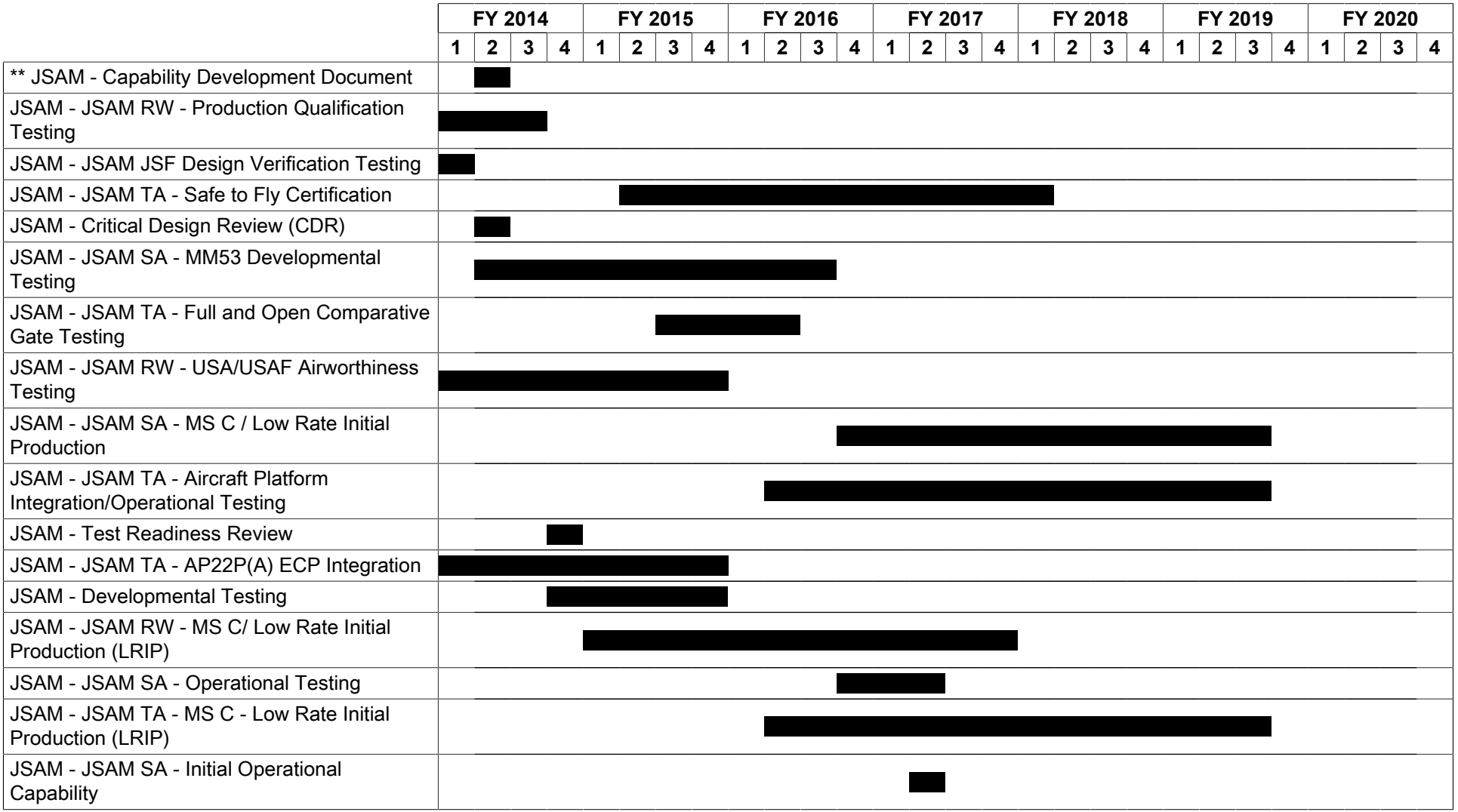

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IP5 / *INDIVIDUAL PROTECTION (EMD)*

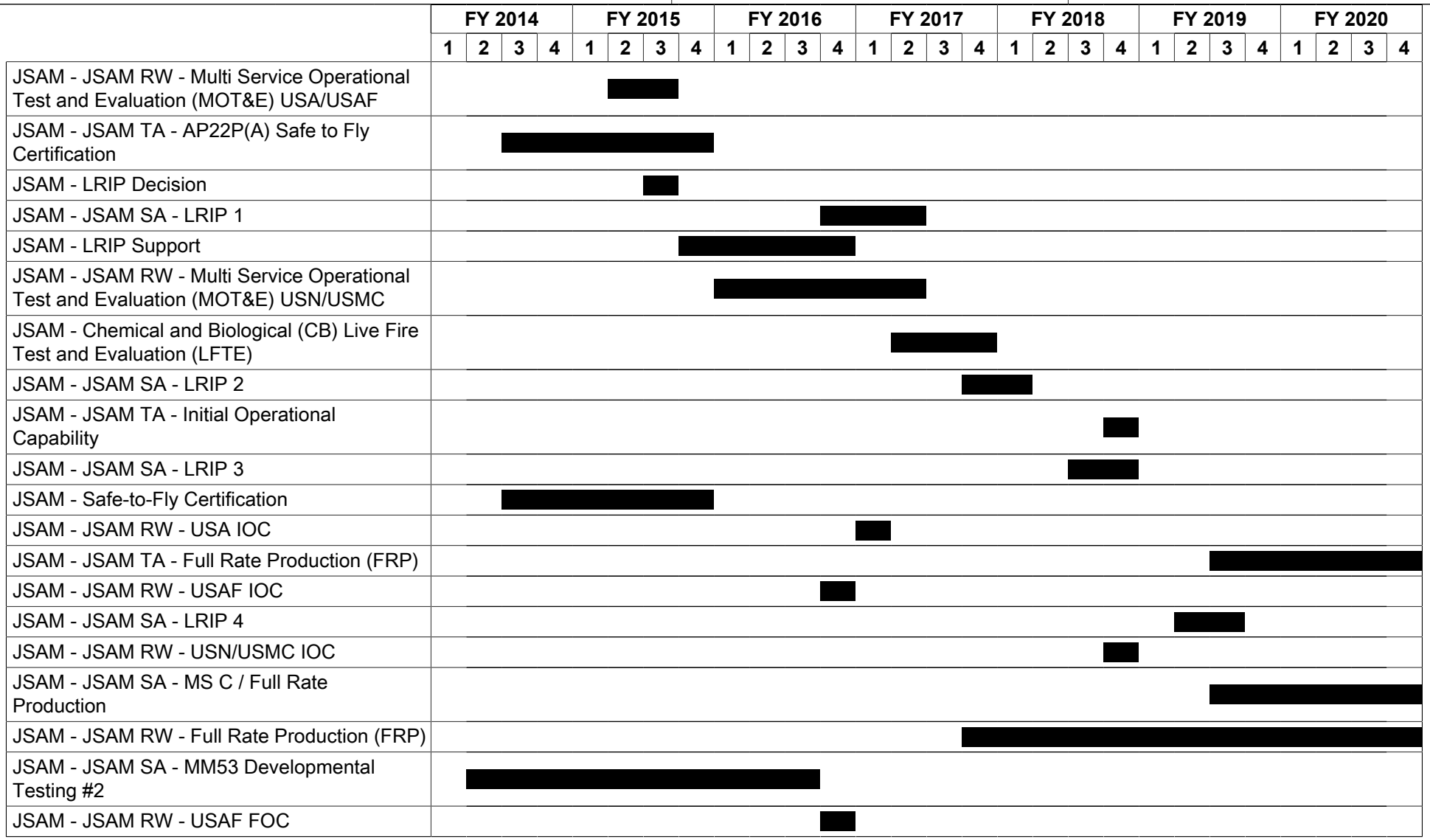

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IP5 / *INDIVIDUAL PROTECTION (EMD)*

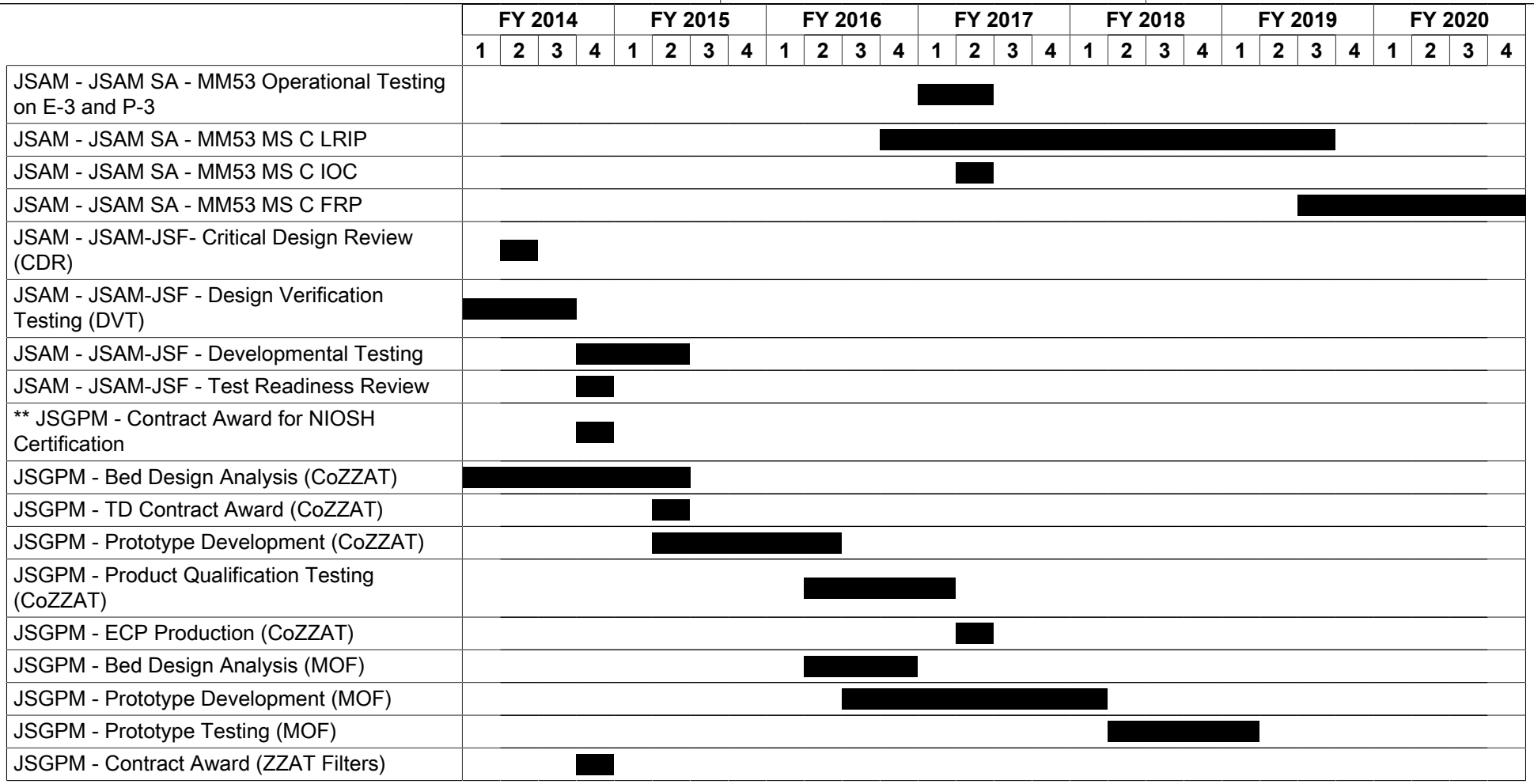

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IP5 / *INDIVIDUAL PROTECTION (EMD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
** JSAM - Capability Development Document	2	2014	2	2014
JSAM - JSAM RW - Production Qualification Testing	1	2014	3	2014
JSAM - JSAM JSF Design Verification Testing	1	2014	1	2014
JSAM - JSAM TA - Safe to Fly Certification	2	2015	1	2018
JSAM - Critical Design Review (CDR)	2	2014	2	2014
JSAM - JSAM SA - MM53 Developmental Testing	2	2014	3	2016
JSAM - JSAM TA - Full and Open Comparative Gate Testing	3	2015	2	2016
JSAM - JSAM RW - USA/USAF Airworthiness Testing	1	2014	4	2015
JSAM - JSAM SA - MS C / Low Rate Initial Production	4	2016	3	2019
JSAM - JSAM TA - Aircraft Platform Integration/Operational Testing	2	2016	3	2019
JSAM - Test Readiness Review	4	2014	4	2014
JSAM - JSAM TA - AP22P(A) ECP Integration	1	2014	4	2015
JSAM - Developmental Testing	4	2014	4	2015
JSAM - JSAM RW - MS C/ Low Rate Initial Production (LRIP)	1	2015	4	2017
JSAM - JSAM SA - Operational Testing	4	2016	2	2017
JSAM - JSAM TA - MS C - Low Rate Initial Production (LRIP)	2	2016	3	2019
JSAM - JSAM SA - Initial Operational Capability	2	2017	2	2017
JSAM - JSAM RW - Multi Service Operational Test and Evaluation (MOT&E) USA/USAF	2	2015	3	2015
JSAM - JSAM TA - AP22P(A) Safe to Fly Certification	3	2014	4	2015
JSAM - LRIP Decision	3	2015	3	2015
JSAM - JSAM SA - LRIP 1	4	2016	2	2017
JSAM - LRIP Support	4	2015	4	2016

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
JSAM - JSAM RW - Multi Service Operational Test and Evaluation (MOT&E) USN/ USMC	1	2016	2	2017
JSAM - Chemical and Biological (CB) Live Fire Test and Evaluation (LFTE)	2	2017	4	2017
JSAM - JSAM SA - LRIP 2	4	2017	1	2018
JSAM - JSAM TA - Initial Operational Capability	4	2018	4	2018
JSAM - JSAM SA - LRIP 3	3	2018	4	2018
JSAM - Safe-to-Fly Certification	3	2014	4	2015
JSAM - JSAM RW - USA IOC	1	2017	1	2017
JSAM - JSAM TA - Full Rate Production (FRP)	3	2019	4	2020
JSAM - JSAM RW - USAF IOC	4	2016	4	2016
JSAM - JSAM SA - LRIP 4	2	2019	3	2019
JSAM - JSAM RW - USN/USMC IOC	4	2018	4	2018
JSAM - JSAM SA - MS C / Full Rate Production	3	2019	4	2020
JSAM - JSAM RW - Full Rate Production (FRP)	4	2017	4	2020
JSAM - JSAM SA - MM53 Developmental Testing #2	2	2014	3	2016
JSAM - JSAM RW - USAF FOC	4	2016	4	2016
JSAM - JSAM SA - MM53 Operational Testing on E-3 and P-3	1	2017	2	2017
JSAM - JSAM SA - MM53 MS C LRIP	4	2016	3	2019
JSAM - JSAM SA - MM53 MS C IOC	2	2017	2	2017
JSAM - JSAM SA - MM53 MS C FRP	3	2019	4	2020
JSAM - JSAM-JSF- Critical Design Review (CDR)	2	2014	2	2014
JSAM - JSAM-JSF - Design Verification Testing (DVT)	1	2014	3	2014
JSAM - JSAM-JSF - Developmental Testing	4	2014	2	2015
JSAM - JSAM-JSF - Test Readiness Review	4	2014	4	2014
** JSGPM - Contract Award for NIOSH Certification	4	2014	4	2014
JSGPM - Bed Design Analysis (CoZZAT)	1	2014	2	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
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
JSGPM - Contract Award (ZZAT Filters)	4	2014	4	2014

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program											Date: February 2015	
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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**
IS5: *INFORMATION SYSTEMS (EMD)*	-	9.155	10.340	19.960	-	19.960	23.747	22.976	24.353	25.736	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project supports System Development and Demonstration and Low Rate Initial Production (SDD/LRIP). Experimentation and demonstration will be used in this phase to reduce risk and inform supporting materiel solutions, CONOPS and TTPs.

Efforts included in this project are: (1) Joint Effects Model (JEM); (2) the Joint Warning and Reporting Network (JWARN); (3) Biosurveillance Portal (BSP); and (4) Software Support Activity (SSA).

The Joint Effects Model (JEM) is a web-based software application that supplies the Department of Defense (DoD) with the one and only accredited tool to effectively model and simulate the effects of Chemical, Biological,
Radiological and Nuclear (CBRN) weapon strikes and incidents. JEM is capable of providing all Warfighters with the ability to accurately model and predict the time-phased impact of CBRN and Toxic Industrial Chemical/Material (TIC/TIM) events and effects. JEM supports planning to mitigate the effects of Weapons of Mass Destruction (WMD) and to provide rapid estimates of hazards and effects into the Common Operational Picture (COP).

Follow-on increments of JEM will refine and display hazard areas in near real time to reflect inputs such as meteorological, oceanographic, or actual agent concentration data. JEM will automatically receive input data from the Command, Control, Communications, Computers and Intelligence (C4I) system on which it resides such as historical climatology, local observations, weather forecasts, natural environmental threats (i.e.: pandemic influenza, etc.), terrain data, intelligence information, or population data. Increment 2 will allow manual user input for factors such as concentrations of chemical warfare agents or actual exposure measurements and forecast sheltering stay-times and provide for modeling sheltering time through user-defined scenarios.

The Joint Warning and Reporting Network (JWARN) is an accredited Department of Defense (DOD) warning and reporting system that provides a standardized warning and reporting capability for Chemical, Biological, Radiological and Nuclear (CBRN) and Toxic Industrial Materials (TIM) incidents.

JWARN supports the Joint Force Commander (JFC) by improving force protection capabilities for units operating in chemical, biological, radiological and nuclear environments. JWARN provides a digital display of CBRN 1-6 reports on the Common Operational Picture, displayed through Service provided C4I systems resident at all echelons of command. JWARN will be operated by CBRN and non-CBRN trained personnel operating in the operations center at various command nodes. This provides commanders with situational awareness to inform decision making for force protection criteria, unmasking operations, decontamination, and continuity of operations in a contaminated environment. Future sensor configurations will forward sensor inputs directly to JWARN via established communication lanes, removing the man-in-the-loop requirement with the current system configuration. JWARN will be information system classification agnostic and must be able to operate on

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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unclassified, secret, top secret, and mission partner IT Systems without increasing system operator requirement, i.e.: sensor to COP via one communication loop. As a result, sensors will then be able to communicate with JWARN on the same network, regardless of classification.

The Biosurveillance Portal (BSP) is a web-based enterprise environment that will facilitate collaboration, communication, and information sharing in support of the detection, management, and mitigation of man-made and naturally occurring biological events. BSP bridges the communication gaps in the biosurveillance domain to provide a central access point for biosurveillance information and situational awareness for DoD, interagency and allied partners supporting the early identification and response to biological events.

BSP provides an integrated suite of web-based components designed to support public health officers, environmental officers, clinicians, physicians, and CBRN personnel as they maintain their situational awareness of local, regional, and global biological threats to the force. BSP does not duplicate existing DoD capabilities, but rather leverages existing tools and technologies to provide users across multiple organizations and disciplines with a centralized "one-stop shop" for all of their biosurveillance resources.

As software-intensive systems, JEM, JWARN, and BSP have no separately identifiable unit production components. JEM and JWARN are designated as 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. Expect BSP to be similarly designated.

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 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 Increment 2 Developmental Test and Evaluation	0.547	1.305	0.677
FY 2014 Accomplishments: Performed Government assessment of competitive prototypes to assist in contracting technical assessment and down select decision. Perform Government Development Test of JEM Increment 2 capabilities to support FY15 Operational Test (OT) and Fielding Decision (FD)			
FY 2015 Plans:			

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Conduct Government Development Test of the software deliveries. Conduct independent Verification, Validation, and Accreditation of software models to support OT. ***FY 2016 Plans:*** Continue Government Development Test of software deliveries.			
Title: 2) JEM Increment 2 Program Development ***FY 2014 Accomplishments:*** Awarded competitive prototyping down-select option and initiated JEM Increment 2 software baseline. ***FY 2015 Plans:*** Develop JEM Increment 2 software development and perform integration into Command and Control (C2) systems. ***FY 2016 Plans:*** Continue development of JEM Increment 2 software and perform integration into Command and Control (C2) systems.	5.927	4.594	1.005
Title: 3) JEM Increment 2 Program Management ***FY 2014 Accomplishments:*** Performed program/financial management, costing, contracting, scheduling and acquisition oversight support for JEM Increment 2. Complete development of Requirements Definition Package 1 (RDP-1). Successfully complete Milestone B (MSB) decision and Build Decision 1 (BD1) for JEM Increment 2. ***FY 2015 Plans:*** Perform program/financial management, costing, contracting, scheduling and acquisition oversight support for JEM Increment 2. Continue development and execution of Build Decisions (BD) for JEM Increment 2 while working within the agile development process, to include performing a Joint Integrated Logistics Assessment (JILA) and Logistics' Demonstration (LOG DEMO) in order to deploy JEM Increment 2 to the services. Complete development of Requirements Definition Package 3 (RDP-3), which defines requirements for C2 systems integration of the JEM software. Complete Build Decision 2 (BD2) for JEM Increment 2. ***FY 2016 Plans:*** Complete Fielding Decision and IOC of Stand Alone capabilities of JEM Increment 2. Continue to perform program/financial management, costing, contracting, scheduling and acquisition oversight support for JEM Increment 2. Continue development and execution of Build Decision 4 (BD4) for JEM Increment 2 while working within the agile development process, to include performing a Joint Integrated Logistics Assessment (JILA) and Logistics' Demonstration (LOG DEMO) in order to deploy JEM Increment 2 to the services. Complete development of Requirements Definition Package 3 (RDP-3), which defines requirements	0.721	0.747	0.833

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
for C2 systems integration of the JEM software. Complete fielding decision and IOC of C2 systems capabilities of JEM Increment 2.			
Title: 4) JEM Increment 2 Operational Test and Evaluation ***FY 2015 Plans:*** Conduct lab based Operational Test (OT) and limited scope service-specific Initial Operational Test & Evaluation (IOT&E) which will allow for Initial Operational Capability (IOC) of JEM Increment 2 as a standalone to be deployed to the services. ***FY 2016 Plans:*** Continue lab based OT and limited scope service specific IOT&E to support fielding of software with additional capability. Conduct Service C2 Follow-on Test and Evaluation (FOT&E) which will allow for IOC of JEM Increment 2 on service C2 systems.	-	1.050	1.101
Title: 5) JWARN IT BOX Program Management Support ***FY 2015 Plans:*** Provide program/financial management, costing, contracting, scheduling and acquisition oversight for JWARN Increment 2. Continue development and execution of Build Decisions (BDs) for JWARN Increment 2 while working within the Agile development process, to include performing a Joint Integrated Logistics Assessment (JILA) and Logistics' Demonstration (LOG DEMO) in preparation for test and deployment of JWARN Increment 2 to the services. ***FY 2016 Plans:*** Continue program/financial management, costing, contracting, scheduling and acquisition oversight for JWARN Increment 2. Continue development and execution of Build Decisions (BDs) for JWARN Increment 2 while working within the Agile development process, to include performing a Joint Integrated Logistics Assessment (JILA) and Logistics' Demonstration (LOG DEMO) in preparation for test and deployment of JWARN Increment 2 to the services.	-	0.351	0.574
Title: 6) JWARN Inc. 2 - Program Development ***FY 2015 Plans:*** Initiate JWARN Increment 2 software development and perform integration into Command and Control (C2) systems. ***FY 2016 Plans:*** Continue JWARN Increment 2 software development and perform integration into Command and Control (C2) systems. Initiate integration of CBRN sensor/detector data/input with JWARN software baseline.	-	0.115	2.686
Title: 7) JWARN - Developmental Test and Evaluation ***FY 2015 Plans:***	-	0.101	0.257

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Initiate Government development test and evaluation of software deliveries in preparation for Multiservice Operational Test and Evaluation (MOT&E) which will allow for Initial Operational Capability of JWARN Increment 2 to be deployed to the services. ***FY 2016 Plans:*** Continue Government development test and evaluation of software deliveries in preparation for Multiservice Operational Test and Evaluation (MOT&E) which will allow for Initial Operational Capability of JWARN Increment 2 to be deployed to the services.			
Title: 8) JWARN - Operational Test and Evaluation ***FY 2016 Plans:*** Conduct Multiservice Operational Test and Evaluation (MOT&E) which will allow for Initial Operational Capability (IOC) of JWARN Increment 2 to be deployed to the services.	-	-	0.789
Title: 9) BSP Product Development ***FY 2016 Plans:*** Plan to development and integration of BSP capabilities for inclusion in Capability Releases. This will included architecture development, system design, key system tools, third party developed models, access to external data sources, information assurance, and host platform design.	-	-	7.137
Title: 10) BSP Developmental Test and Evaluation ***FY 2016 Plans:*** Joint and Service Developmental Testing of BSP Capability Releases as required in accordance with the BSP Test and Evaluation Master Plan (TEMP).	-	-	0.998
Title: 11) BSP Program Management Support ***FY 2016 Plans:*** Will provide support for the management of all aspects of BSP development and testing. Tasks will included, planning, budgeting, execution oversight, risk management, user feedback, scheduling, and administration.	-	-	0.867
Title: 12) BSP Operational Testing and Evaluation ***FY 2016 Plans:*** Will support the Operational Testing of BSP in a realistic operational environment prior to fielding decision to determine system suitability and supportability. Support will consist of test support personnel as well as engineering, and operational support.	-	-	1.135
Title: 13) SSA Policies, Standards and Guidelines ***FY 2014 Accomplishments:***	0.208	0.203	0.211

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Updated acquisition documentation for CBRN IT systems based on changes in policy, procedures, and guidelines. Continue surveillance of Federal Information Security Management Act (FISMA) and DoD Acquisition policies necessary to maintain certification on deployed service platforms. Provide M&S strategic and accreditation support. ***FY 2015 Plans:*** Provide updates to acquisition documentation for CBRN IT systems based on changes in policy, procedures, and guidelines. Perform surveillance of Federal Information Security Management Act (FISMA) and DoD Acquisition policies necessary to maintain certification on deployed service platforms. Provide M&S strategic and accreditation support. ***FY 2016 Plans:*** Continue updates to acquisition documentation for CBRN IT systems based on changes in policy, procedures, and guidelines. Perform surveillance of Federal Information Security Management Act (FISMA) and DoD Acquisition policies necessary to maintain certification on deployed service platforms. Provide M&S strategic and accreditation support.			
Title: 14) SSA Integrated Architecture ***FY 2014 Accomplishments:*** Performed required modifications to the Integrated Architecture on host platforms and document the infrastructure and technical standards. Conduct Net-Centric Assessments for programs. Reviewed and update the Common CBRN Interface standards on operational systems, including a CCSI. ***FY 2015 Plans:*** Modify the Integrated Architecture on host platforms and document the infrastructure and technical standards. Conduct Net-Centric Assessments for programs. Review and update the Common CBRN Interface standards on operational systems, including a CCSI. ***FY 2016 Plans:*** Continue to perform required modifications to the Integrated Architecture on host platforms and document the infrastructure and technical standards. Conduct Net-Centric Assessments for programs. Review and update the Common CBRN Interface standards on operational systems, including a CCSI.	0.251	0.240	0.247
Title: 15) SSA Enterprise Support and Services ***FY 2014 Accomplishments:*** Supported processes and services for Architectures, Data, Information Assurance, Modeling and Simulation, Science and Technology, and Standards and Policy. Modify support processes and services necessary to maintain relevancy in accordance with DoD standards, policies, and guidelines. ***FY 2015 Plans:***	0.163	0.147	0.177

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Support processes and services for Architectures, Data, Information Assurance, Modeling and Simulation, Science and Technology, and Standards and Policy. Modify support processes and services necessary to maintain relevancy in accordance with DoD standards, policies, and guidelines. ***FY 2016 Plans:*** Continue to support processes and services for Architectures, Data, Information Assurance, Modeling and Simulation, Science and Technology, and Standards and Policy. Modify support processes and services necessary to maintain relevancy in accordance with DoD standards, policies, and guidelines.			
Title: 16) SSA Chemical, Biological, Radiological, Nuclear (CBRN) Data Model ***FY 2014 Accomplishments:*** Developed periodic CBRN data model and define the structure and content of information exchange (XML schemas) that support interoperability between CBD programs. ***FY 2015 Plans:*** Develop and update CBRN data model and define the structure and content of information exchange "Extensible Markup Language"(XML) schemas that support interoperability between CBD programs. ***FY 2016 Plans:*** Continue to develop and update CBRN data model and define the structure and content of information exchange "Extensible Markup Language"(XML) schemas that support interoperability between CBD programs.	0.183	0.167	0.198
Title: 17) SSA Information Assurance ***FY 2014 Accomplishments:*** Employed Information Systems Security Engineering efforts to develop or modify the IA component of a system architecture to ensure it is in compliance with the IA component of the Global Information Grid architecture, and makes maximum use of enterprise IA capabilities and services. ***FY 2015 Plans:*** Employ Information Systems Security Engineering efforts to develop or modify the IA component of a system architecture to ensure it is in compliance with the IA component of the Global Information Grid architecture, and makes maximum use of enterprise IA capabilities and services. ***FY 2016 Plans:***	0.444	0.477	0.456

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continue to employ Information Systems Security Engineering efforts to develop or modify the IA component of a system architecture to ensure it is in compliance with the IA component of the Global Information Grid architecture, and makes maximum use of enterprise IA capabilities and services.			
Title: 18) SSA Policy and Standards Repository ***FY 2014 Accomplishments:*** Provided standards, formats, templates, training, and best practices to support practical compliance with laws, regulations, and policy for acquisition, certification, and sustainment of net-centric, interoperable, and spectrum dependent systems and devices. ***FY 2015 Plans:*** Provide standards, formats, templates, training, and best practices to support practical compliance with laws, regulations, and policy for acquisition, certification, and sustainment of net-centric, interoperable, and spectrum dependent systems and devices. ***FY 2016 Plans:*** Continue to provide standards, formats, templates, training, and best practices to support practical compliance with laws, regulations, and policy for acquisition, certification, and sustainment of net-centric, interoperable, and spectrum dependent systems and devices.	0.366	0.357	0.355
Title: 19) SSA Technology Transition Support ***FY 2014 Accomplishments:*** Provided Technology Transition support services (common components and services) for CBD programs. ***FY 2015 Plans:*** Perform Technology Transition support services (common components and services) for CBD programs. ***FY 2016 Plans:*** Continue to perform Technology Transition support services (common components and services) for CBD programs.	0.345	0.351	0.257
Title: 20) SBIR/STTR ***FY 2015 Plans:*** SBIR/STTR - FY15 - Small Business Innovative Research.	-	0.135	-
Accomplishments/Planned Programs Subtotals	9.155	10.340	19.960

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program			Date: February 2015
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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
• IS7: *INFORMATION SYSTEMS (OP SYS DEV)*	6.442	4.091	7.703	-	7.703	9.557	12.407	13.519	12.767	Continuing	Continuing
• G47101: *JOINT WARNING & REPORTING NETWORK (JWARN)*	1.112	0.766	-	-	-	4.589	1.522	0.533	0.479	Continuing	Continuing
• JC0208: *JOINT EFFECTS MODEL (JEM)*	-	1.141	3.316	-	3.316	5.069	3.086	3.031	2.728	Continuing	Continuing
• JS5230: *SOFTWARE SUPPORT ACTIVITY (SSA)*	0.100	-	0.100	-	0.100	0.100	0.100	0.100	0.090	Continuing	Continuing

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. 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

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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).

BIOSURVEILLANCE PORTAL (BSP)

BSP will utilize the JROC's "IT Box" construct for program requirements, management, and development. The intent is to provide the next generation of capability with current and future technologies in less time and fielding products to the DoD utilizing an incremental delivery approach. 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.

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.

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E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** JEM - SW SB - JEM Increment 2 - Hazard Prediction Model Development and Integration	C/CPAF	General Dynamics Information Technologies : Fairfax, VA	0.000	5.927	Apr 2014	4.594	Apr 2015	1.005	Apr 2016	-		1.005	Continuing	Continuing	-
** JWARN - SW S - JWARN Inc. 2 - Software Development	C/CPAF	Northrop Grumman Corp. : Winter Park, FL	0.000	-		0.109	Feb 2015	2.686	Feb 2016	-		2.686	Continuing	Continuing	-
** BSP - SW S - BSP software	Various	TBD :	0.000	-		-		7.137	Mar 2016	-		7.137	Continuing	Continuing	-
** SSA - SW S - CBRN Data Model	C/CPAF	Various :	4.867	0.812	Mar 2014	0.592	Mar 2015	0.615	Mar 2015	-		0.615	Continuing	Continuing	-
		Subtotal	4.867	6.739		5.295		11.443		-		11.443	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** SSA - ES S - Support Costs	MIPR	Space and Naval Warfare (SPAWAR) Systems Center : San Diego, CA	6.724	0.497	Nov 2013	0.616	Nov 2014	0.582	Nov 2015	-		0.582	Continuing	Continuing	-
** ZSBIR - SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	TBD :	0.000	-		0.135		-		-		-	Continuing	Continuing	-
		Subtotal	6.724	0.497		0.751		0.582		-		0.582	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** JEM - DTE SB - JEM Increment 2 - Hazard Prediction Model Development Test	MIPR	Naval Surface Warfare Center (NSWC) - Dahlgren Center : Dahlgren, VA	6.813	0.547	Nov 2013	1.305	Nov 2014	0.677	Nov 2015	-		0.677	Continuing	Continuing	-
OTHT C - JEM Inc. 2 - OT&E Hazard Prediction Modeling software	MIPR	Navy Operational Test and Eval Force (OPTEVFOR) : Norfolk, VA	0.000	-		1.050	Nov 2014	1.101	Nov 2015	-		1.101	Continuing	Continuing	-
** JWARN - OTE S - JWARN Inc. 2 - MOT&E	MIPR	Army Test and Evaluation Command (ATEC) : Aberdeen Proving Ground, MD	0.000	-		0.101	Nov 2014	1.046	Nov 2015	-		1.046	Continuing	Continuing	-
** BSP - DTE S - BSP Software	MIPR	Various :	0.000	-		-		0.998	Dec 2015	-		0.998	Continuing	Continuing	-
OTE S - BSP Software - MOT&E	MIPR	Various :	0.000	-		-		1.135	Dec 2015	-		1.135	Continuing	Continuing	-
** SSA - DTE S - Test and Evaluation	MIPR	Space and Naval Warfare (SPAWAR) Systems Center : San Diego, CA	2.272	0.446	Nov 2013	0.477	Nov 2014	0.461	Nov 2015	-		0.461	Continuing	Continuing	-
		Subtotal	9.085	0.993		2.933		5.418		-		5.418	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** JEM - PM/MS S - Program Office - Planning and Programming	MIPR	Space and Naval Warfare (SPAWAR) Systems Center : San Diego, CA	4.922	0.721	Nov 2013	0.747	Nov 2014	0.833	Nov 2015	-		0.833	Continuing	Continuing	-
** JWARN - PM/MS S - JWARN Increment 2	MIPR	Space and Naval Warfare (SPAWAR)	0.000	-		0.357	Nov 2014	0.574	Nov 2015	-		0.574	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management Support		Systems Center : San Diego, CA													
** BSP - PM/MS S - BSP Program Management	Various	Various :	0.000	-		-		0.867	Dec 2015	-		0.867	Continuing	Continuing	-
** SSA - PM/MS S - Management Services	MIPR	Space and Naval Warfare (SPAWAR) Systems Center : San Diego, CA	2.221	0.205	Nov 2013	0.257	Nov 2014	0.243	Nov 2015	-		0.243	Continuing	Continuing	-
		Subtotal	7.143	0.926		1.361		2.517		-		2.517	-	-	-

	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	27.819	9.155		10.340		19.960		-		19.960	-	-	-

Remarks

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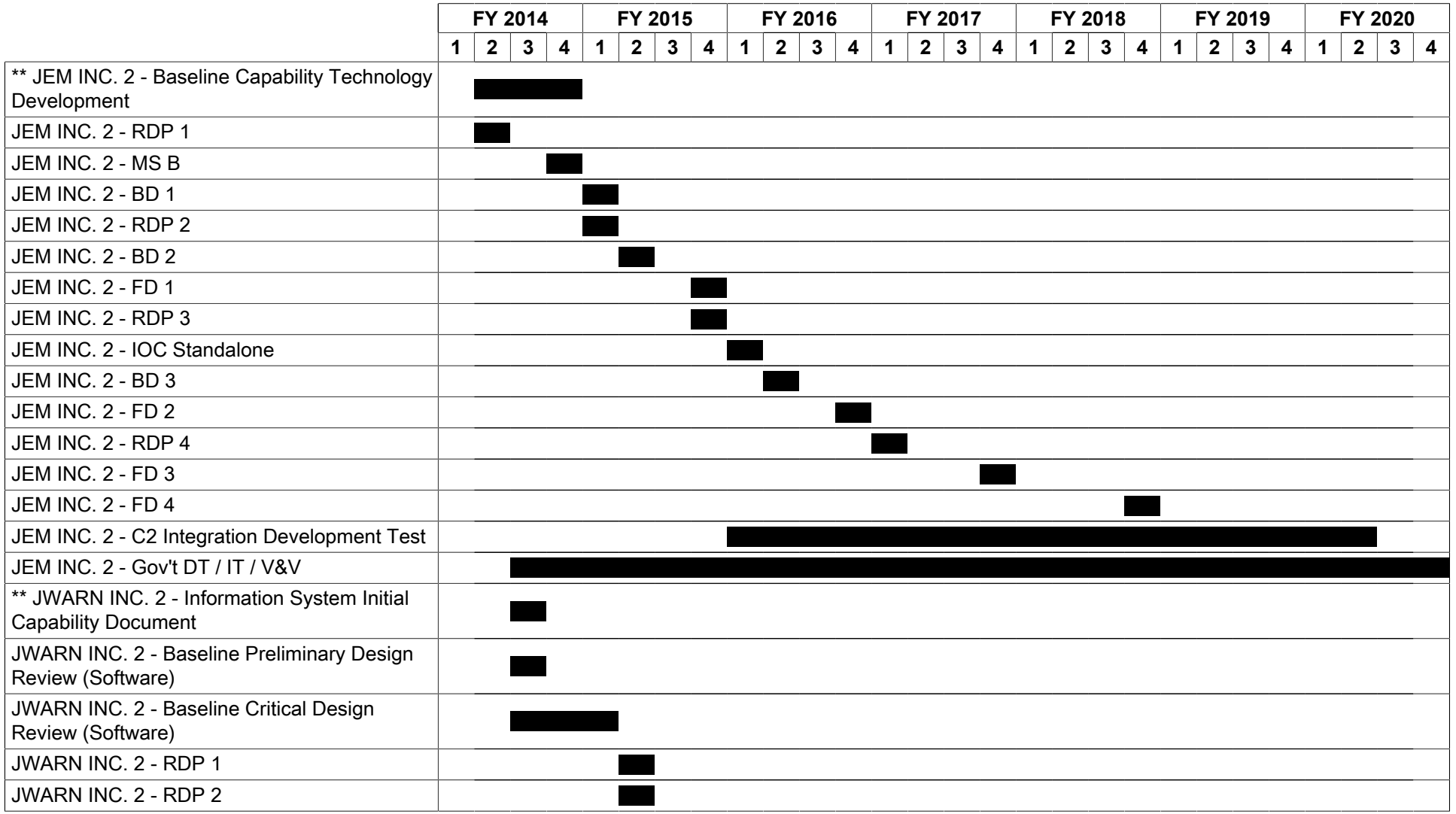

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** IS5 / *INFORMATION SYSTEMS (EMD)*

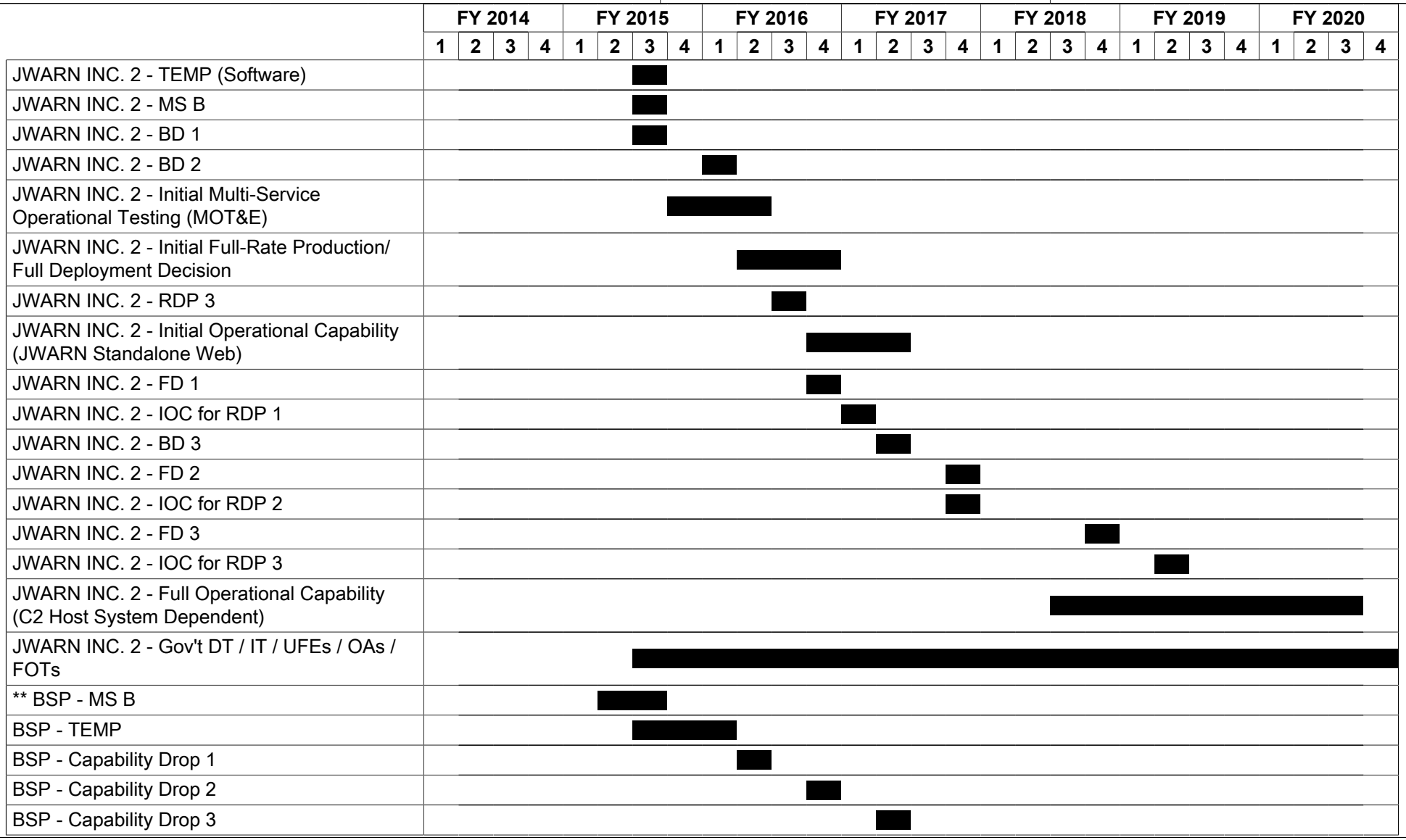

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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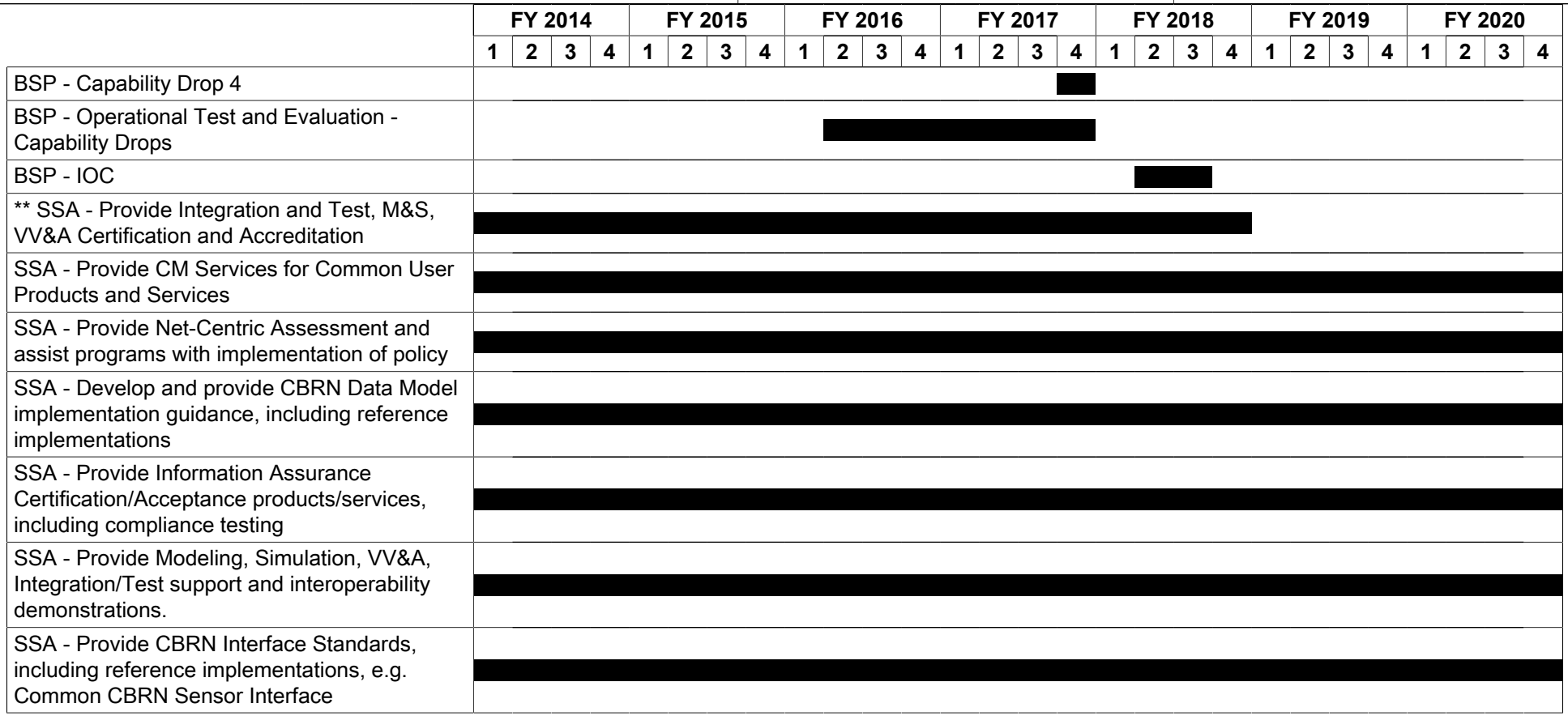

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
** JEM INC. 2 - Baseline Capability Technology Development	2	2014	4	2014
JEM INC. 2 - RDP 1	2	2014	2	2014
JEM INC. 2 - MS B	4	2014	4	2014
JEM INC. 2 - BD 1	1	2015	1	2015
JEM INC. 2 - RDP 2	1	2015	1	2015
JEM INC. 2 - BD 2	2	2015	2	2015
JEM INC. 2 - FD 1	4	2015	4	2015
JEM INC. 2 - RDP 3	4	2015	4	2015
JEM INC. 2 - IOC Standalone	1	2016	1	2016
JEM INC. 2 - BD 3	2	2016	2	2016
JEM INC. 2 - FD 2	4	2016	4	2016
JEM INC. 2 - RDP 4	1	2017	1	2017
JEM INC. 2 - FD 3	4	2017	4	2017
JEM INC. 2 - FD 4	4	2018	4	2018
JEM INC. 2 - C2 Integration Development Test	1	2016	2	2020
JEM INC. 2 - Gov't DT / IT / V&V	3	2014	4	2020
** JWARN INC. 2 - Information System Initial Capability Document	3	2014	3	2014
JWARN INC. 2 - Baseline Preliminary Design Review (Software)	3	2014	3	2014
JWARN INC. 2 - Baseline Critical Design Review (Software)	3	2014	1	2015
JWARN INC. 2 - RDP 1	2	2015	2	2015
JWARN INC. 2 - RDP 2	2	2015	2	2015
JWARN INC. 2 - TEMP (Software)	3	2015	3	2015

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program		Date: February 2015
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	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
JWARN INC. 2 - MS B	3	2015	3	2015
JWARN INC. 2 - BD 1	3	2015	3	2015
JWARN INC. 2 - BD 2	1	2016	1	2016
JWARN INC. 2 - Initial Multi-Service Operational Testing (MOT&E)	4	2015	2	2016
JWARN INC. 2 - Initial Full-Rate Production/Full Deployment Decision	2	2016	4	2016
JWARN INC. 2 - RDP 3	3	2016	3	2016
JWARN INC. 2 - Initial Operational Capability (JWARN Standalone Web)	4	2016	2	2017
JWARN INC. 2 - FD 1	4	2016	4	2016
JWARN INC. 2 - IOC for RDP 1	1	2017	1	2017
JWARN INC. 2 - BD 3	2	2017	2	2017
JWARN INC. 2 - FD 2	4	2017	4	2017
JWARN INC. 2 - IOC for RDP 2	4	2017	4	2017
JWARN INC. 2 - FD 3	4	2018	4	2018
JWARN INC. 2 - IOC for RDP 3	2	2019	2	2019
JWARN INC. 2 - Full Operational Capability (C2 Host System Dependent)	3	2018	3	2020
JWARN INC. 2 - Gov't DT / IT / UFEs / OAs / FOTs	3	2015	4	2020
** BSP - MS B	2	2015	3	2015
BSP - TEMP	3	2015	1	2016
BSP - Capability Drop 1	2	2016	2	2016
BSP - Capability Drop 2	4	2016	4	2016
BSP - Capability Drop 3	2	2017	2	2017
BSP - Capability Drop 4	4	2017	4	2017
BSP - Operational Test and Evaluation - Capability Drops	2	2016	4	2017
BSP - IOC	2	2018	3	2018
** SSA - Provide Integration and Test, M&S, VV&A Certification and Accreditation	1	2014	4	2018

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	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
SSA - Provide CM Services for Common User Products and Services	1	2014	4	2020
SSA - Provide Net-Centric Assessment and assist programs with implementation of policy	1	2014	4	2020
SSA - Develop and provide CBRN Data Model implementation guidance, including reference implementations	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

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program										Date: February 2015		
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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**
MB5: *MEDICAL BIOLOGICAL DEFENSE (EMD)*	-	253.748	179.497	117.881	-	117.881	170.122	209.182	215.905	208.482	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project funds medical countermeasures, development of reagents, assays, diagnostic equipment, biosurveillance and supporting efforts.

The Advanced Development and Manufacturing (ADM) capability (formerly the Medical Countermeasures Advanced Development and Manufacturing (MCMI) program) provides core and drug development services to include the establishment, commissioning, validation, and attainment of Current Good Manufacturing Practice (cGMP)/ Current Good Laboratory Practice (cGLP) for a MCM ADM capability for the Department of Defense (DoD).

The ADM effort is being executed in two phases. Phase 1 is for the establishment, commissioning, and validation of the ADM capability. This project funds the establishment of the ADM capability in Alachua, Florida. Two ADM cGMP suites, capable of operating at Bio Surety Level (BSL) 3 will be established during the base contract period. There are contract options to incrementally increase capacity. Upon attainment of cGMP capability Phase 2 begins. During Phase 2, the contractor team will support and maintain the ADM capability in a state of readiness to support MCM development (to include cGMP manufacturing) and assist in training personnel in its use. The second phase includes transition and integration of new technologies to support MCM FDA required development activities. Phase 1 and 2 contract was awarded in March 2013 to Nanotherapeutics, Inc., Alachua, FL. The ADM capability sustainment costs during Phase 2 will originate from Government MCM programs using this capability.

Biosurveillance programs align the biosurveillance efforts across the DoD and national strategies. The BSV program will scope and influence BSV capabilities as products to meet Warfighter requirements through innovative management of key BSV initiative. BSV will also support the Joint US Forces Korea (USFK) Portal and Integrated Threat Recognition (JUPITR) ATD which will find, demonstrate, transition, and transfer the best operational concepts and technology solutions in support of a holistic approach to countering biological threats from laboratory to operational use. Depending on the maturity, outputs will focus on providing component, CONOPS, and subsystem transition into programs of record (PORs) and/or integration into existing PORs. Technologies identified from the JUPITR ATD will be fielded in FY16 to Pacific Command (PACOM). Future ATD developments will continue to bridge communication gaps between US Forces across other Combatant Command (COCOMs). The Biosurveillance (BSV) program will transfer from the Medical Countermeasures (MB) Project to the Contamination Avoidance (CA) Project effective FY 2016.

The Critical Reagents Program's (CRP) strategy establishes a core research and development capability by developing biological threat agent reference materials (strains, antigens, antibodies and nucleic acids) and detection/diagnostic assays for biothreat agent detection. These reagents/assays are leveraged across multiple programs to meet the requirements of the Warfighter and Joint biological defense systems and support the biological defense community. Through the Targeted Acquisition of Reference Materials Augmenting Capabilities (TARMAC) initiative, the CRP will use a systematic approach to the introduction of new materials and information into MCM development.

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The Emerging Infectious Diseases Therapeutics (EID Tx) program is developing and will deliver a Food and Drug Administration (FDA) approved, broad-spectrum medical countermeasure to the Warfighter for protection against naturally occurring or biologically engineered viruses. EID Tx is pursuing influenza indication as the first step in the development of a broad spectrum antiviral drug due to a clear and established FDA regulatory approval pathway. The drug in development is highly efficacious against multiple influenza viruses, including the 2009 H1N1 pandemic virus, H5N1 avian influenza virus, the most recently identified H7N9 virus from the outbreak in China, and drug resistant strains of influenza viruses. This drug has also demonstrated efficacy against other viruses of concern to the DoD's biodefense program. FDA approval for an influenza treatment is anticipated following completion of the SDD phase. Ongoing EID Tx drug development will be leveraged to demonstrate additional broad-spectrum MCM's against naturally occurring and/or engineered biowarfare threats. To meet the mission need of "one drug, many bugs" EID Tx is testing product efficacy on BWA threats. This will allow the military to leverage a product that will be FDA approved for influenza against other viruses.

The Hemorrhagic Fever Virus (HFV) MCS Acquisition Program develops medical countermeasures (MCMs), using high threat, extremely lethal Biological Warfare Agents (BWAs) of the Filoviridae family agents (Ebola) as a model system. Medical countermeasures will be advanced through the Food and Drug Administration (FDA) licensure/approval via the FDA 'Animal Rule', which allows for the demonstration of efficacy in relevant animal model(s) when human testing is not ethically feasible. HFV will also conduct animal model development and refinement as needed to support the pivotal animal efficacy testing required under the FDA 'Animal Rule'. Completion of Phase I trials, animal model development, and manufacturing scale up were the focus of the ACD&P phase. FDA approval for Filovirus therapeutics are expected following completion of the SDD phase. HFV will also support the Ebola outbreak by performing Phase 2 clinical trials in Africa.

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 FDA-cleared diagnostics to inform individual patient treatment and CBR situational awareness and disease surveillance. NGDS Increment 1 will significantly improve diagnostic capabilities for deployable combat health support units (role 3) while also improving operational suitability and affordability. 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, evacuation, 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. NGDS Increment 2 will compliment NGDS Increment 1 by addressing biological pathogens and toxins, diagnostics for chemical and radiological exposures, and to provide capability to lower echelons of care.

The DoD funds the development of vaccines that are directed against validated biological warfare (BW) weapons to include bacteria, viruses, and toxins of biological origin. Effective medical countermeasures to negate the threat of these BW agents are urgently needed. Vaccines have been identified as the most efficient countermeasure against the validated threat of BW weapons. Products under development in this budget item include Recombinant Botulinum A/B and Plague vaccines. Efforts to be conducted during the Engineering Manufacturing Development (EMD) Phase include the development of large scale manufacturing process and validation of that process, nonclinical studies, demonstration of manufacturing consistency, and expanded clinical human safety studies. The results of these efforts, and those conducted during the EMD phase, will be used to submit a Biologic License Application (BLA) to the Food and Drug Administration (FDA) for product licensure. To evaluate vaccine effectiveness, pivotal animal studies will be conducted concurrently with the Phase 3 clinical trial to satisfy the requirements of the FDA's "Animal Rule". The DoD anticipates that the FDA will approve these products using the Animal Rule, which allows for the demonstration of efficacy in relevant animal model(s). Upon FDA licensure, the product will transition to full-scale licensed production.

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The DoD also has the mission to maintain Investigational New Drug (IND) vaccines in Good Manufacturing Practice (GMP) storage and to conduct the periodic potency and sterility testing of these materials to support submissions to the FDA. These IND vaccines will be used to provide additional levels of protection to laboratory workers in the Special Immunizations Program (SIP) conducting research on these diseases.

FY 2015 funding includes $169.5 million of base funding and $10.0 million of Ebola emergency funding.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: 1) ADM - Establish Manufacturing Suites & Capability ***FY 2014 Accomplishments:*** Finalized the establishment of two modular manufacturing suites to biosurety level three (3) standards. Conducted verification and validation of the manufacturing suites to include process equipment. Continued ADM capability staffing with Contractor personnel. Finalized the procurement, installation and testing of equipment.	13.990	-	-
Title: 2) ADM - Equipment Procurement and Installation. ***FY 2014 Accomplishments:*** Finalized the procurement, installation and testing of equipment.	24.238	-	-
Title: 3) ADM - Program Management ***FY 2014 Accomplishments:*** Provided strategic planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight and technical support.	8.079	-	-
Title: 4) BSV ***FY 2014 Accomplishments:*** Initiated and completed purchase of Commercial Off the Shelf Detectors for the Assessment of Environmental Detectors (AED) Leg of the JUPITR ATD.	5.513	-	-
Title: 5) BSV ***FY 2014 Accomplishments:*** Initiated management and Logistic Support to AED leg of JUPITR ATD.	3.500	-	-
Title: 6) BSV ***FY 2014 Accomplishments:*** Initiated management and travel efforts in support of the Bio Defense Tactical Force	0.100	-	-
Title: 7) CRP	2.960	2.738	1.918

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2014 Accomplishments: Continued development/expansion/scale-up of biological select agents reference materials to known and emerging threats. ***FY 2015 Plans:*** Continue development/expansion of biological select agents reference materials to known and emerging threats. ***FY 2016 Plans:*** Continue development/expansion of biological select agents reference materials to known and emerging threats.			
Title: 8) CRP ***FY 2014 Accomplishments:*** Continued development of immunoassays and nucleic acid based genomic assays to support fielded and developmental systems. ***FY 2015 Plans:*** Continue development of immunoassays and nucleic acid based genomic assays to support fielded and developmental systems. ***FY 2016 Plans:*** Continue development of immunoassays and nucleic acid based genomic assays to support fielded and developmental systems.	7.170	1.590	1.370
Title: 9) CRP ***FY 2014 Accomplishments:*** Continued Quality Assurance/Quality Control testing to encompass the transition and fielding of biological detection assays. ***FY 2015 Plans:*** Continue QA/QC testing to encompass the transition and fielding of biological detection assays. ***FY 2016 Plans:*** Continue QA/QC testing to encompass the transition and fielding of biological detection assays.	1.111	1.070	0.865
Title: 10) CRP ***FY 2014 Accomplishments:*** Continued to maintain yearly accreditation audits such as ISO 9001,17025, and Guide 34 certifications. Conducted quality actions throughout to maintain the quality managed systems. ***FY 2015 Plans:*** Continue to maintain yearly accreditation audits such as ISO 9001, 17025, and Guide 34 certifications. Continue quality actions throughout to maintain the quality managed systems. ***FY 2016 Plans:***	0.870	1.290	1.064

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continue to maintain yearly accreditation audits such as ISO 9001, 17025, and Guide 34 certifications. Continue quality actions throughout to maintain the quality managed systems.			
Title: 11) CRP ***FY 2014 Accomplishments:*** Continued development of prototypes/information for strains contained in Unified Culture Collection. ***FY 2015 Plans:*** Continue development of prototypes/information for strains contained in Unified Culture Collection. ***FY 2016 Plans:*** Continue development of prototypes/information for strains contained in Unified Culture Collection.	1.525	2.384	1.779
Title: 12) EID TX ***FY 2014 Accomplishments:*** Continued FDA required Phase 3 global Clinical trials in support of FDA approval of the influenza indication. Clinical trials were and will continue to be conducted in the United States, the Commonwealth of Puerto Rico, and 21 foreign countries. ***FY 2015 Plans:*** Complete FDA required Phase 3 global Clinical trials in support of influenza indication.	70.426	13.897	-
Title: 13) EID TX ***FY 2014 Accomplishments:*** Completed efficacy testing of patient viral samples for the EID Tx-Flu Phase 3 trial in support of FDA approval for influenza indication.	7.546	-	-
Title: 14) EID TX ***FY 2014 Accomplishments:*** Completed FDA required 38 patient renal study to determine renal toxicity levels.	1.051	-	-
Title: 15) EID TX ***FY 2014 Accomplishments:*** Initiated the manufacturing of FDA required, drug product, registration batches.	10.000	-	-
Title: 16) EID TX ***FY 2014 Accomplishments:***	2.600	-	-

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continued working with Ministries of Health (an FDA equivalent) for the 21 non-US countries that have clinical trial sites supporting EID Tx-Flu's Phase 3 Clinical Study.			
Title: 17) EID TX ***FY 2014 Accomplishments:*** Continued analysis of data for all FDA required clinical trials, including the 1,716 patient Phase 3 clinical study. ***FY 2015 Plans:*** Continue analysis of data for all FDA required clinical trials, including the 1,716 patient Phase 3 clinical study. Develop FDA clinical study reports. ***FY 2016 Plans:*** Complete analysis of data for all FDA required clinical trials, including the 1,716 patient Phase 3 clinical study. Develop and deliver FDA clinical study reports.	3.960	8.871	15.841
Title: 18) EID TX ***FY 2014 Accomplishments:*** Initiated EID Tx New Indication (NI) Filovirus Proof of Concept Studies (POC) for Broad Spectrum testing of anti-viral therapeutics.	4.000	-	-
Title: 19) EID TX ***FY 2015 Plans:*** Prepare NDA submission for FDA review and approval. ***FY 2016 Plans:*** Deliver NDA for FDA approval, and answer any FDA questions.	-	5.816	1.231
Title: 20) EID TX ***FY 2016 Plans:*** Initiate Dose Range and Response studies using 72 Non-Human Primates (NHPs) in support of FDA approval for EID Tx-NI for Bio-Warfare Agent (BWA) threats using the animal rule.	-	-	3.920
Title: 21) EID TX ***FY 2016 Plans:*** Initiate Delay Time to Treat studies using 72 NHPs in support of FDA approval for EID Tx-NI BWA threats using the animal rule.	-	-	1.639
Title: 22) HFV ***FY 2014 Accomplishments:***	7.283	24.892	25.736

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Initiated manufacturing activities in preparation for Post Milestone B activities. ***FY 2015 Plans:*** Initiate and complete pilot animal efficacy studies via the aerosol route of challenge under Good Laboratory Practices (GLP) conditions in a Bio Safety Level (BSL) 4. Initiate pivotal aerosol efficacy studies in a BSL 4, under GLP conditions. ***FY 2016 Plans:*** Continue pivotal animal efficacy studies via aerosol and parenteral routes of challenge in non-human primates. Continue Phase II clinical trials.			
Title: 23) HFV ***FY 2015 Plans:*** Initiate alternate route of administration feasibility studies, and Delayed Time to Treat studies for the Ebola MCM. ***FY 2016 Plans:*** Continue studies to further characterize the therapeutic window of the Ebola MCM under Good Laboratory Practice (GLP) conditions in a Bio Safety Level (BSL) 4.	-	14.174	17.475
Title: 24) HFV ***FY 2015 Plans:*** Ebola Response (Title X) funded effort. Perform Phase 2 clinical trials in Africa for TEKMIRA (TKM-Ebola). Phase 2 clinical trials will be conducted using the TKM-Ebola product targeting the Guinea Variant using its LNP 1 formulation.	-	10.000	-
Title: 25) NGDS Increment 2 ***FY 2016 Plans:*** Initiate clinical trials for CBR multiplex lateral flow immunoassays	-	-	3.600
Title: 26) NGDS Increment 2 ***FY 2016 Plans:*** Purchase lateral flow immunoassays to support clinical trials.	-	-	0.400
Title: 27) NGDS Increment 2 ***FY 2016 Plans:*** Initiate system development and demonstration for CBR NGDS Inc 2 diagnostic platform instrument.	-	-	4.000
Title: 28) VAC BOT - Recombinant Botulinum Vaccine ***FY 2014 Accomplishments:***	20.000	26.447	8.268

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continued technology transfer of the manufacturing process and initiate the production of consistency lots for serotypes A & B. ***FY 2015 Plans:*** Complete technology transfers of the manufacturing process for serotypes A & B; develop analytical comparability studies to correlate new drug substances with those manufactured at the previous Contractor Manufacturing Organization (CMO). ***FY 2016 Plans:*** Execute the manufacturing of consistency lots for serotypes A & B at the new CMO.			
Title: 29) VAC BOT - Recombinant Botulinum Vaccine ***FY 2014 Accomplishments:*** Delayed phase three clinical trial execution due to termination of manufacturing efforts by previous drug substance's CMO. Completed pivotal non human primate efficacy study. Continued requirements for safeguarding biological select agents and toxins. ***FY 2015 Plans:*** Validate manufacturing processes for both serotypes at the new CMO facility. Initiate consistency lot manufacturing of drug substances intended for utilization in the Phase 3 Clinical Trial. Continued requirements for safeguarding biological select agents and toxins. ***FY 2016 Plans:*** Continue non-clinical comparability studies to bridge newly manufactured drug substance and product that was made at the previous CMO prior to technology transfer. Continue to monitor requirements for safeguarding biological select agents and toxins. Initiate efforts for the development of the Chemistry Manufacturing and Controls (CMC) submission to the FDA.	4.811	16.115	6.232
Title: 30) VAC BOT ***FY 2014 Accomplishments:*** Continued to provide strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight, and technical support. ***FY 2015 Plans:*** Continue to provide strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight, and technical support. ***FY 2016 Plans:***	22.490	10.000	2.274

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continue to provide strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight, and technical support.			
Title: 31) VAC PLG ***FY 2014 Accomplishments:*** Completed non-clinical, FDA-required passive transfer studies. Initiated animal efficacy studies to demonstrate vaccine effectiveness according to the Capability Development Document (CDD) requirement levels. Continued requirement for safeguarding select agents and toxins. ***FY 2015 Plans:*** Continue Animal efficacy studies. Initiate pivotal animal efficacy and duration studies. Initiate reproductive toxicity testing. Continue requirements for safeguarding biological select agents and toxins. ***FY 2016 Plans:*** Complete Animal efficacy studies. Continue pivotal animal efficacy and duration studies. Continue reproductive toxicity testing. Continue requirements for safeguarding biological select agents and toxins.	6.397	11.200	7.000
Title: 32) VAC PLG ***FY 2014 Accomplishments:*** Prepared all manufacturing and Fill/Finish documentation required by the FDA for permission to proceed to Phase 3 Clinical Trial. ***FY 2015 Plans:*** Initiate preparation for Phase 3 clinical trial to evaluate expanded safety and efficacy in thousands of volunteers. Conduct Milestone C/LRIP. ***FY 2016 Plans:*** Initiate in-life portion of Phase 3 clinical trial to evaluate expanded safety and efficacy. Initiate Protective Capacity Assay using pooled human sera from Phase 3 clinical trial.	9.859	16.864	3.798
Title: 33) VAC PLG ***FY 2014 Accomplishments:*** Completed consistency lot production and testing. ***FY 2015 Plans:*** Prepare and submit IND for consistency lot production and testing and Protective Capacity Assay (PCA) results to the FDA for approval or guidance. ***FY 2016 Plans:***	2.334	2.000	1.500

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B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Complete and finalize adjustments to production, Fill/Finish operations and PCA results after receipt of FDA guidance.			
Title: 34) VAC PLG ***FY 2014 Accomplishments:*** Continued to provide strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight, and technical support. ***FY 2015 Plans:*** Continue to provide strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight, and technical support. ***FY 2016 Plans:*** Continue to provide strategic/tactical planning, government systems engineering, program/financial management, costing, technology assessment, contracting, scheduling, acquisition oversight, and technical support.	9.498	6.150	5.200
Title: 35) VAC SIP ***FY 2014 Accomplishments:*** Continued storage, distribution, potency testing, and biosurety compliance activities in support of the Special Immunization Program. ***FY 2015 Plans:*** Continue storage, distribution, potency testing, and biosurety compliance activities in support of the Special Immunization Program. ***FY 2016 Plans:*** Continue storage, distribution, potency testing, and biosurety compliance activities in support of the Special Immunization Program.	2.437	1.581	2.771
Title: 36) SBIR/STTR ***FY 2015 Plans:*** SBIR/STTR - FY15 - Small Business Innovative Research.	-	2.418	-
Accomplishments/Planned Programs Subtotals	253.748	179.497	117.881

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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
• 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
• JM8788: *NEXT GENERATION DIAGNOSTICS SYSTEM (NGDS)*	-	12.518	5.300	-	5.300	9.798	15.412	16.014	11.900	Continuing	Continuing
• JX0005: *DOD BIOLOGICAL VACCINE PROCUREMENT (VACCINES)*	0.185	6.412	0.185	-	0.185	0.185	0.185	3.848	10.882	Continuing	Continuing
• JX0210: *CRITICAL REAGENTS PROGRAM (CRP)*	-	2.564	1.005	-	1.005	1.005	1.005	1.005	1.005	Continuing	Continuing

Remarks

D. Acquisition Strategy

ADVANCED DEVELOPMENT & MANUFACTURING (ADM)

The ADM capability awarded a competitive ten (10) year [two base years with four 2 year options] Cost Plus Fixed fee (CPFF) contract to Nanotherapeutics, Inc., Alachua, Florida.

BIOSURVEILLANCE (BSV)

BSV is a set of capabilities that acquire, integrate, and analyze medical, environmental, and incident management data using existing and next generation systems, medical and non-medical sample collection tools and identifiers/diagnostics; and transition hardware/software tools and devices as residuals from the Biosurveillance Joint United States Force Korea (USFK) Portal and Integrated Threat Recognition (JUPITR) Advanced Technology Demonstration (ATD). Lessons learned from the ATD will be transitioned to the programs of record associated with the CBDP (such as NGDS, TDS & CALS). The acquisition strategy will address the materiel solutions identified out of the multiple Biosurveillance (BSV) related Analysis of Alternatives (AoA's).

CRITICAL REAGENTS PROGRAM (CRP)

The Critical Reagents Program's (CRP) strategy establishes a core research and development capability to develop biological threat agent reference materials (antigens, nucleic acids, and antibodies) and detection and diagnostic assays for biothreat agent detection that shall be used across multiple detection and diagnostic platforms. In addition, this strategy includes a formal, validated advanced development process for transitioning new assays into production and subsequent integration with the appropriate detection/diagnostic platform.

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EMERGING INFECTIOUS DISEASES - THERAPUTIC (EID TX)

The goal of the EID Tx program is to develop a safe and effective MCM against biothreats of interest to the DoD. The first step of the acquisition strategy is to develop an MCM for influenza due to a clear and established FDA regulatory approval pathway. The Phase 2 clinical trial is complete, demonstrating both safety and efficacy in humans. Program was authorized by FDA to move forward at End of Phase 2 meeting on 3 SEP 13. Phase 3 clinical trials for EID Tx against influenza began during 1QFY14. Following successful FDA approval of the drug against influenza in 3QFY16, EID Tx will utilize an incremental approach to label extensions of this broad spectrum therapeutic. The development strategy for additional label extensions of the antiviral drug consists of detailed characterization of antiviral activities of the broad-spectrum compound against multiple virus families using cell-based and animal model systems. Using the results of the cell-based assays efficacy assessment of the drug against high-priority viruses of biodefense concern will be performed using small animal studies. The results of the proof of concept studies will determine the best candidate to move forward for the Label Extension (LE) starting in FY15.

HEMORRHAGIC FEVER VIRUS (HFV)

The acquisition strategy uses an evaluation of a drug candidate against the lethal Ebola Zaire viruses. Following a successful Milestone B and entry into SDD phase, the program will conduct expanded human clinical safety studies, definitive animal efficacy, and toxicology studies, required for FDA approval. The performer will submit a New Drug Application for the Ebola Zaire therapeutic during the SDD Phase. During the Production and Deployment phase, full rate manufacturing and stockpile production will be pursued. If the FDA mandates post-marketing surveillance studies, they will be conducted during Production and Deployment.

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.

BOTULINUM VACCINE (VAC BOT)

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The Prime System Contractor (Dynport Vaccine Company/DVC LLC, Frederick MD) will function as the FDA regulatory sponsor and will perform all ancillary, regulatory, quality assurance, and data management as required by the FDA. The current budget supports development through FDA licensure of a recombinant bivalent (A and B) botulinum vaccine. Other serotypes will be developed through an evolutionary approach, as funding becomes available. The Advanced Component Development and Prototypes (ACD&P) phase included the manufacture of candidate current Good Manufacturing Practices (cGMP) lots, animal safety testing, and initial clinical trials. During this phase, the vaccine was evaluated for safety and immunogenicity in a small human clinical trial (Phase 1). During the Engineering Manufacturing Development (EMD) Phase, the prime contractor stabilized the vaccine formulation, validated the manufacturing process and testing protocols, optimized the delivery systems and manufactured consistency lots. Phase 2 clinical trials were performed and provided additional safety data. The remaining efforts to be conducted during the SDD phase include the Phase 3 clinical trial to demonstrate safety in an expanded volunteer population and evaluation of efficacy in pivotal animal studies to satisfy FDA requirements for the Animal Rule. The Low rate Initial Production (LRIP) decision will be conducted after the manufacturing process has been validated and consistency lots have been produced. A Biologics License Application is submitted to the FDA will all clinical, nonclinical, and manufacturing data. The FDA grants licensure to products that are determined to be safe and efficacious.

PLAGUE VACCINE (VAC PLG)

The Advanced Component Development and Prototypes (ACD&P) phase included the manufacture of candidate current Good Manufacturing Practices (cGMP) lots, animal safety testing, and initial clinical trials. During this phase, the vaccine was evaluated for safety and immunogenicity in a small human clinical trial (Phase 1). In order to reduce technical program risk in the Plague vaccine program, the program office conducted competitive prototyping between a US vaccine candidate and a United Kingdom vaccine candidate. During the 2008 Resource Allocation Decision, the US Plague Vaccine candidate was selected for development through licensure under a Prime System Contract. The Prime System Contractor (Dynport Vaccine Company/DVC LLC, Frederick MD) currently functions as the FDA regulatory sponsor and performs all ancillary, regulatory, quality assurance, and data management as required by the FDA. A Project Arrangement is in place with the United Kingdom and Canada. During the Engineering Manufacturing Development (EMD) Phase, the prime contractor stabilized the vaccine formulation, validated the manufacturing process and testing protocols, optimized the delivery systems and manufactured consistency lots. Phase 2 clinical trials were performed and provided additional safety data. The remaining efforts to be conducted during the EMD phase include the Phase 3 clinical trial to demonstrate safety in an expanded volunteer population and evaluation of efficacy and duration of protection in pivotal animal studies to satisfy FDA requirements for the Animal Rule . The Low Rate Initial Production (LRIP) decision will be conducted after the manufacturing process has been validated and consistency lots have been produced. A Biologics License Application will be submitted to the FDA with all clinical, nonclinical, and manufacturing data. The FDA grants licensure to products that are determined to be safe and efficacious. Currently, the Phase 3 clinical trial has been delayed about 12-14 months due to new guidance from the FDA that all documentation concerning vaccine production (large scale engineering and consistency lot manufacturing) and formulation and Fill/Finish (vialing) must be completed and approved prior to the start of the Phase 3 clinical trial. This was normally done concurrently with the Phase 3 clinical trial.

SPECIAL IMMUNIZATION PROGRAM (VAC SIP)

The SIP effort is to store IND vaccines used to potentially provide additional protection to laboratory workers performing research on the infectious agents for Tularemia, Eastern Equine Encephalitis (EEE), Western Equine Encephalitis (WEE), Venezuelan Equine Encephalitis (VEE), and Q-Fever. Efforts include Good Manufacturing

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Practices (GMP) storage and periodic potency testing to support the FDA regulated Investigational New Drug (IND) reporting requirements. This Department of Defense program supports the Federal interagency with this effort, as well as academic and industry partners.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program			Date: February 2015
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Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** ADM - HW S - Establish ADM capability	C/CPFF	Nanotherapeutics. Inc. : Alachua, FL	56.383	13.990	Apr 2014	-		-		-		-	Continuing	Continuing	-
ADM - HW SB - Procure, Install and Test Equipment	C/CPFF	Nanotherapeutics. Inc. : Alachua, FL	38.488	24.238	Apr 2014	-		-		-		-	Continuing	Continuing	-
** BSV - HW SB - Purchase COTS Detectors for JUPITR Assessment Env. Detectors	MIPR	Defense Logistics Agency : Philadelphia, PA	0.000	5.513	Feb 2014	-		-		-		-	Continuing	Continuing	-
** CRP - HW C - Scale-up of Select Biological Threat Agent Reference Materials	MIPR	Various :	11.370	2.920	Jun 2014	2.879	Jun 2015	2.141	Jun 2016	-		2.141	Continuing	Continuing	-
CRP - HW C - Development of Select Biological Threat Agent Reference Materials and Assays	MIPR	Various :	3.526	6.901	Jun 2014	1.980	Jun 2015	1.195	Jun 2016	-		1.195	Continuing	Continuing	-
** EID TX - SW SB - TMT EID FLU	C/CPFF	MediVector Inc. : Boston, MA	56.869	88.946	Jan 2014	22.087	Dec 2014	9.366	Dec 2015	-		9.366	Continuing	Continuing	-
EID TX - SW SB - T705 Broad Spectrum Capability Development	C/CPFF	Defense Science & Technology Lab (DSTL) : Salisbury Wiltshire, UK	1.139	0.059	Nov 2014	-		-		-		-	Continuing	Continuing	-
EID TX - SW SB - T705 Broad Spectrum Capability Development #2	C/CPFF	University of Pittsburgh : Pittsburgh, PA	0.423	0.145	May 2014	-		-		-		-	Continuing	Continuing	-
EID TX - SW GFPR - T705 Broad Spectrum Capability Development	C/CPIF	TBD :	0.000	-		-		7.800	Dec 2015	-		7.800	Continuing	Continuing	-
** HFV - HFV - HW S - Pivotal Animal Efficacy Studies	C/CPIF	Tekmira Pharmaceuticals Corp. : Vancouver British Columbia, CN	0.000	2.500	Apr 2014	20.431	Jan 2015	18.094	Jan 2016	-		18.094	Continuing	Continuing	-
HW S - OGA Marburg Development	MIPR	Various :	0.000	-		-		3.906	Jan 2016	-		3.906	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MB5 / *MEDICAL BIOLOGICAL DEFENSE (EMD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
HW S - Ebola Response Phase 2 clinical trials for TKM-Ebola targeting Guinea Variant	C/CPIF	Tekmira Pharmaceuticals Corp. : Vancouver British Columbia, CN	0.000	-		9.834	Feb 2015	-		-		-	Continuing	Continuing	-
** NGDS - HW C - Complete assay optimization for multiplex lateral flow immunoassay to support clinical trials	MIPR	TBD :	0.000	-		-		3.500	Jun 2016	-		3.500	Continuing	Continuing	-
** VAC BOT - HW S - Manufacturing, Validation and Consistency Lot Production	C/CPAF	DynPort Vaccine Company (DVC) LLC. : Frederick, MD	0.000	5.115	Mar 2014	14.551	Dec 2014	1.400	Dec 2015	-		1.400	Continuing	Continuing	-
HW S - Manufacturing Tech Transfer	MIPR	Battelle Memorial Institute : Columbus, OH	0.000	5.686	May 2014	4.200	Dec 2014	3.450	Jan 2016	-		3.450	Continuing	Continuing	-
** VAC PLG - HW S - Manufacturing, Validation, and Consistency Lot Production	C/CPAF	DynPort Vaccine Company (DVC) LLC. : Frederick, MD	0.000	7.855	Mar 2014	14.403	Dec 2014	3.400	Dec 2015	-		3.400	Continuing	Continuing	-
HW S - - Manufacturing Validation	MIPR	Battelle Memorial Institute : Columbus, OH	0.000	0.200	Mar 2014	-		-		-		-	Continuing	Continuing	-
		Subtotal	168.198	164.068		90.365		54.252		-		54.252	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** BSV - ILS SB - Logistical Support to COTS AED as part of JUPITR ATD	MIPR	Various :	0.000	3.100	Mar 2014	-		-		-		-	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) MB5 / *MEDICAL BIOLOGICAL DEFENSE (EMD)*	

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
ES C - Bio Defense Tactical Force support	Various	JPEO Chem/Bio Defense (JPEO-CBD) : Aberdeen Proving Ground, MD	0.000	0.100	Jan 2014	-		-		-		-	Continuing	Continuing	-
** CRP - ES C - Select Biological Threat Agent Reference Material Support	MIPR	Various :	3.038	0.848	Jun 2014	0.928	Jun 2015	0.785	Jun 2016	-		0.785	Continuing	Continuing	-
CRP - ES C - Select Biological Threat Agent Reference Material Regulatory/Quality Assurance (QA) Support	MIPR	Dugway Proving Ground (DPG) : Dugway, UT	1.197	0.328	Jun 2014	0.408	Jun 2015	0.318	Jun 2016	-		0.318	Continuing	Continuing	-
** NGDS - ES C - Studies and WIPT Support	MIPR	Various :	0.000	-		-		0.350	Jun 2016	-		0.350	Continuing	Continuing	-
** VAC BOT - TD/D C - Regulatory Integration (Environmental and FDA Documentation) and Delivery System	C/CPAF	DynPort Vaccine Company (DVC) LLC. : Frederick, MD	11.978	4.145	Dec 2013	5.000	Dec 2014	3.000	Dec 2015	-		3.000	Continuing	Continuing	-
** VAC PLG - TD/D C - Regulatory Integration (Environmental and FDA Documentation) and Delivery System	C/CPAF	DynPort Vaccine Company (DVC) LLC. : Frederick, MD	11.978	4.145	Mar 2014	2.000	Dec 2014	1.500	Dec 2015	-		1.500	Continuing	Continuing	-
** VAC SIP - VAC SIP - Storage and Distribution of Vaccines	SS/FP	Fisher BioServices : Rockville, MD	0.000	0.326	Jan 2014	0.314	Dec 2014	0.350	Dec 2015	-		0.350	Continuing	Continuing	-
** ZSBIR - SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	TBD :	0.000	-		2.418		-		-		-	Continuing	Continuing	-
		Subtotal	28.191	12.992		11.068		6.303		-		6.303	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MB5 / *MEDICAL BIOLOGICAL DEFENSE (EMD)*

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** EID TX - EID TX - SW SB - T705 Broad Spectrum Capability Development	PO	US Army Medical Research Institute of Infectious Disease (USAMRIID) : Fort Detrick, MD	1.633	4.000	Sep 2014	-		-		-		-	Continuing	Continuing	-
** HFV - OTHT C - BSL4 Non-Clinical Animal Efficacy Studies	C/CPIF	US Army Medical Research Institute of Infectious Disease (USAMRIID) : Fort Detrick, MD	0.000	-		10.000	Jan 2015	10.031	Jan 2016	-		10.031	Continuing	Continuing	-
** NGDS - OTHT C - Complete pre-clinical trials and initiate clinical trials for a multiplex lateral flow immunoassay diagnostic	MIPR	TBD :	0.000	-		-		2.668	Jun 2016	-		2.668	Continuing	Continuing	-
** VAC BOT - DTE C - VAC BOT - Clinical Trials - Nonclinical Studies	C/CPAF	DynPort Vaccine Company (DVC) LLC. : Frederick, MD	64.765	2.334	Dec 2014	15.811	Dec 2014	4.150	Dec 2015	-		4.150	Continuing	Continuing	-
** VAC PLG - DTE C - PLG - Clinical Trials/Non-Clinical Studies	C/CPAF	DynPort Vaccine Company (DVC) LLC. : Frederick, MD	64.765	3.000	Mar 2014	15.811	Dec 2014	8.298	Dec 2015	-		8.298	Continuing	Continuing	-
** VAC SIP - OTHT C - Potency Testing of Vaccines	MIPR	US Army Medical Research Institute of Infectious Disease (USAMRIID) : Fort Detrick, MD	4.165	1.836	Mar 2014	0.987	Dec 2014	2.136	Dec 2015	-		2.136	Continuing	Continuing	-
		Subtotal	135.328	11.170		42.609		27.283		-		27.283	-	-	-

Remarks

USAMRIID will conduct testing acting as a sub-contractor to TEKMIRA. TEKMIRA will receive USAMRIID test data and write the final report.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) MB5 / *MEDICAL BIOLOGICAL DEFENSE (EMD)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** ADM - PM/MS S - Program Management	Various	Various :	11.768	8.079	Nov 2013	-		-		-		-	Continuing	Continuing	-
** BSV - PM/MS S - Management Support to Commercial Off the Shelf AED as part of JUPITR ATD	MIPR	JPM NBC Contamination Avoidance (JPM NBC CA) : JPEO, Aberdeen Proving Ground, MD	0.000	0.400	Mar 2014	-		-		-		-	Continuing	Continuing	-
** CRP - PM/MS C - Product Management Support	Allot	JPM Medical Countermeasure Systems (JPM MCS) : Fort Detrick, MD	2.019	0.820	Mar 2014	0.897	Mar 2015	0.755	Mar 2016	-		0.755	Continuing	Continuing	-
CRP - PM/MS C - Product Management Support	SS/FFP	Goldbelt Raven LLC. : Frederick, MD	6.611	1.469	Jun 2014	1.543	Jun 2015	1.384	Jun 2016	-		1.384	Continuing	Continuing	-
CRP - PM/MS C - Chem Bio Medical Systems Office	Allot	JPM Medical Countermeasure Systems (JPM MCS) : Fort Detrick, MD	1.543	0.350	Jun 2014	0.437	Jun 2015	0.418	Jun 2016	-		0.418	Continuing	Continuing	-
** EID TX - PM/MS SB - Management Support	Allot	JPEO Chem/Bio Defense (JPEO-CBD) : Aberdeen Proving Ground, MD	2.507	-		1.517	Sep 2015	1.398	Sep 2016	-		1.398	Continuing	Continuing	-
EID TX - PM/MS SB - Management Support	Allot	JPM Medical Countermeasure Systems (JPM MCS) : Fort Belvoir, VA	1.382	2.154	Sep 2014	2.097	Jan 2015	2.160	Jan 2016	-		2.160	Continuing	Continuing	-
EID TX - PM/MS SB - Management Support #2	Allot	JPM Medical Countermeasure Systems (JPM MCS) : Fort Detrick, MD	0.000	0.914	Sep 2014	0.578	Sep 2015	0.533	Sep 2016	-		0.533	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) MB5 / *MEDICAL BIOLOGICAL DEFENSE (EMD)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
EID TX - PM/MS C - Contractor Systems Engineering/ Program Management Support	C/FP	TAURI GROUP LLC THE : Alexandria, VA	3.443	1.335	Feb 2014	1.129	Dec 2014	1.162	Dec 2015	-		1.162	Continuing	Continuing	-
EID TX - PM/MS C - Contractor Systems Engineering/ Program Management Support #2	C/FP	Various :	0.000	2.030	Aug 2014	1.176	Aug 2015	0.212	Aug 2016	-		0.212	Continuing	Continuing	-
** HFV - PM/MS SB - Management Support	Allot	JPEO Chem/Bio Defense (JPEO-CBD) : Aberdeen Proving Ground, MD	0.000	-		2.081	Sep 2015	2.951	Sep 2016	-		2.951	Continuing	Continuing	-
HFV - PM/MS SB - Management Support	Allot	JPM Medical Countermeasure Systems (JPM MCS) : Fort Detrick, MD	0.000	-		0.793	Sep 2015	1.124	Sep 2016	-		1.124	Continuing	Continuing	-
PM/MS SB - Management Support	Allot	JPM Medical Countermeasure Systems (JPM MCS) : Fort Belvoir, VA	0.000	0.965	Sep 2014	0.994	Jan 2015	1.024	Jan 2016	-		1.024	Continuing	Continuing	-
PM/MS C - Contractor Systems Engineering/ Program Management Support	C/FP	Various :	0.000	0.553	Aug 2014	0.728	Aug 2015	0.908	Aug 2016	-		0.908	Continuing	Continuing	-
PM/MS C - Contractor Systems Engineering/ Program Management Support #2	C/FP	Patricio Enterprises : Inc., Woodbridge, VA	0.000	1.364	Dec 2013	1.756	Aug 2015	2.160	Aug 2016	-		2.160	Continuing	Continuing	-
PM/MS C - Contractor/ Systems Engineering/ Program Management Support	C/FP	Noblis Inc. : Falls Church, VA	0.000	0.970	Dec 2013	1.247	Aug 2015	1.532	Aug 2016	-		1.532	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) MB5 / *MEDICAL BIOLOGICAL DEFENSE (EMD)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
PM/MS C - Contractor Systems Engineering/ Program Management Support #3	C/FP	TASC : INC., Andover, MA	0.000	0.931	Dec 2013	1.202	Aug 2015	1.481	Aug 2016	-		1.481	Continuing	Continuing	-
** NGDS - PM/MS S - Product Management Support	Allot	TBD :	0.000	-		-		0.732	Dec 2015	-		0.732	Continuing	Continuing	-
PM/MS SB - Product Management Systems Support	Allot	JPM Medical Countermeasure Systems (JPM MCS) : Fort Detrick, MD	0.000	-		-		0.750	Jun 2016	-		0.750	Continuing	Continuing	-
** VAC BOT - PM/MS C - JPM Chem/Bio Medical Systems (JPM CBMS), Fort Detrick, MD	Allot	JPM Medical Countermeasure Systems (JPM MCS) : Fort Detrick, MD	7.848	2.386	Mar 2014	3.000	Dec 2014	2.500	Dec 2015	-		2.500	Continuing	Continuing	-
VAC BOT - PM/MS S - Joint Vaccine Acquisition Program Management	Allot	JPEO Chem/Bio Defense (JPEO-CBD) : Aberdeen Proving Ground, MD	30.990	22.490	Dec 2014	10.000	Dec 2014	2.274	Dec 2015	-		2.274	Continuing	Continuing	-
VAC BOT - PM/MS S - Contractor Systems Engineering/Program Management Support	SS/FFP	Goldbelt Raven LLC. : Frederick, MD	5.560	5.145	Mar 2014	-		-		-		-	Continuing	Continuing	-
** VAC PLG - PM/MS S - Joint Vaccine Acquisition Program Management Office	Allot	JPM Medical Countermeasure Systems (JPM MCS) : Fort Detrick, MD	7.848	7.888	Mar 2014	1.600	Dec 2014	1.700	Dec 2015	-		1.700	Continuing	Continuing	-
VAC PLG - PM/MS S - Program Management Support	Allot	JPEO Chem/Bio Defense (JPEO-CBD) : Aberdeen Proving Ground, MD	30.990	5.000	Mar 2014	2.400	Dec 2014	2.600	Dec 2015	-		2.600	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MB5 / *MEDICAL BIOLOGICAL DEFENSE (EMD)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** VAC SIP - PM/MS SB - Management Support	Allot	JPM Medical Countermeasure Systems (JPM MCS) : Fort Detrick, MD	0.469	0.275	Mar 2014	0.280	Mar 2015	0.285	Mar 2016	-		0.285	Continuing	Continuing	-
		Subtotal	112.978	65.518		35.455		30.043		-		30.043	-	-	-

	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	444.695	253.748		179.497		117.881		-		117.881	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MB5 / *MEDICAL BIOLOGICAL DEFENSE (EMD)*

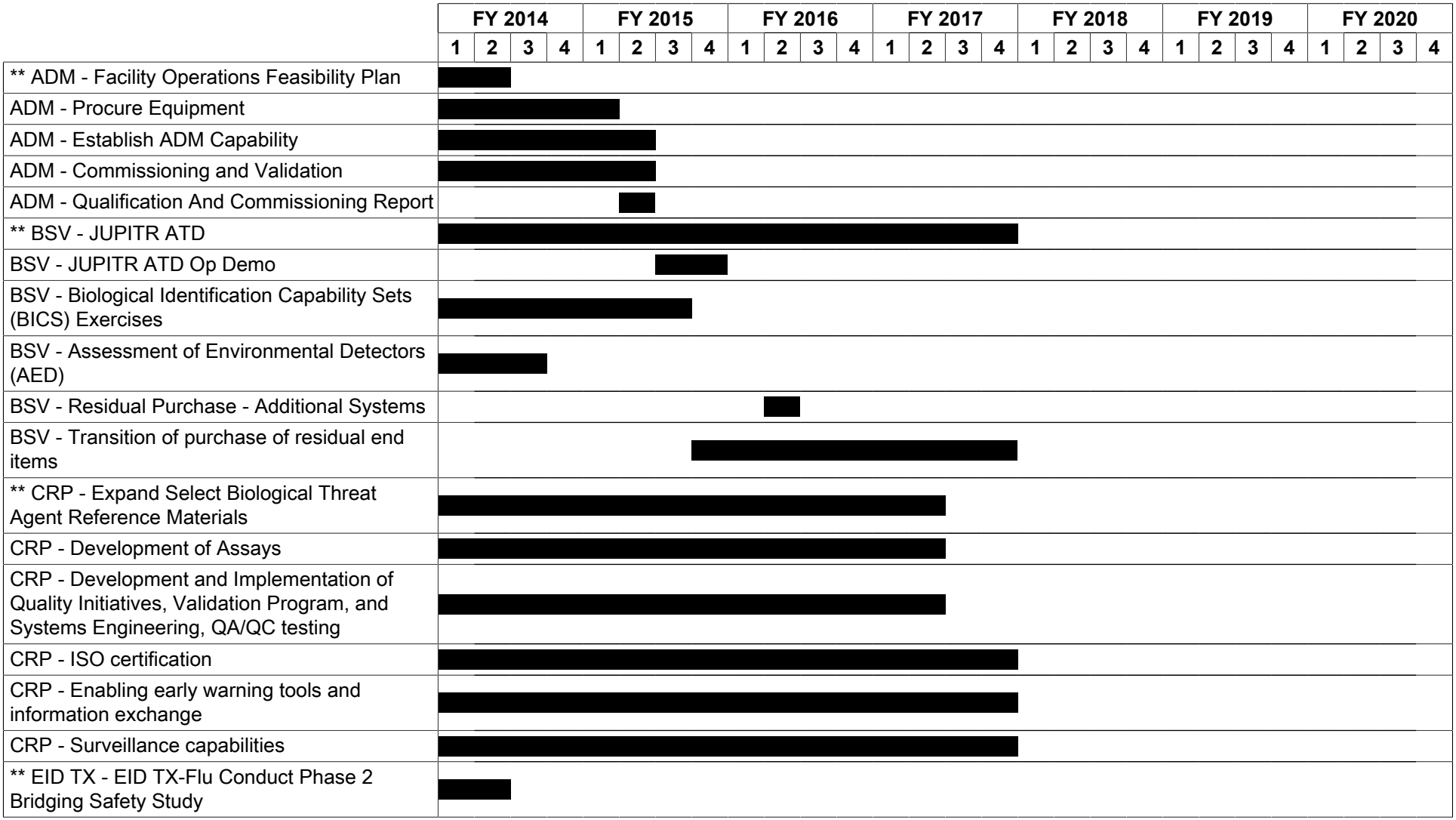

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MB5 / *MEDICAL BIOLOGICAL DEFENSE (EMD)*

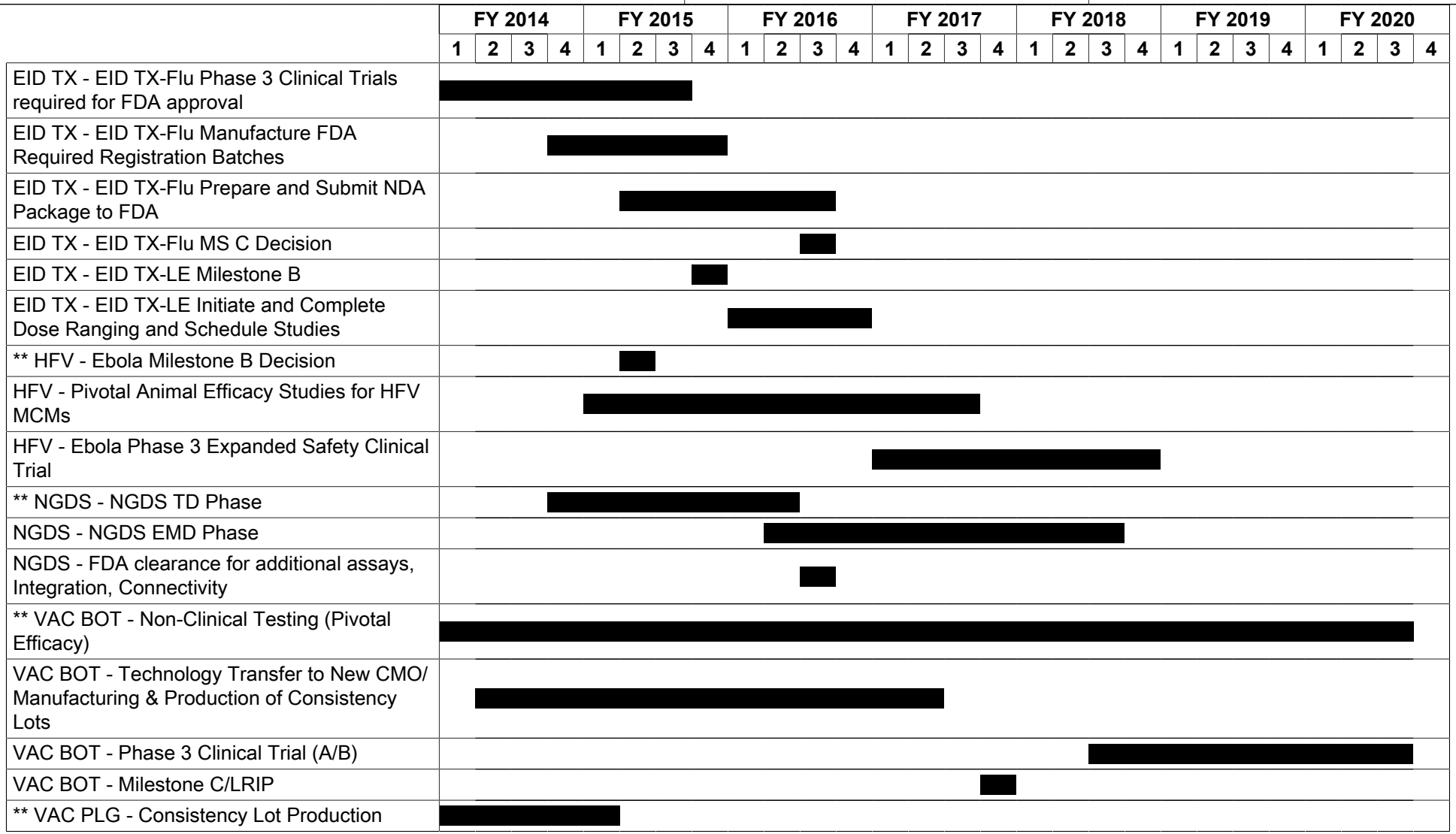

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MB5 / *MEDICAL BIOLOGICAL DEFENSE (EMD)*

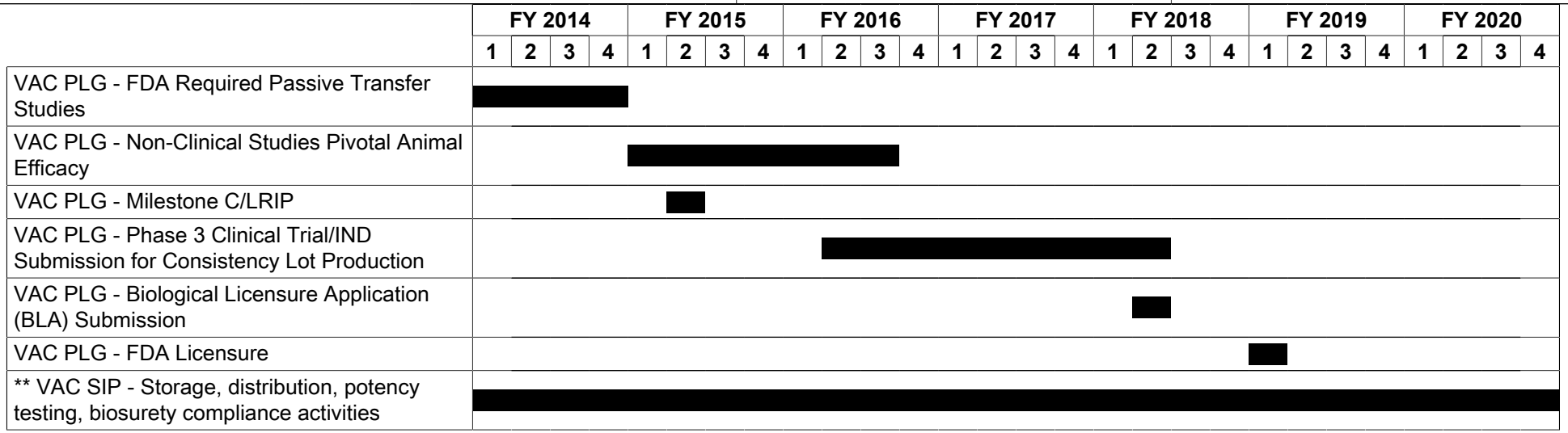

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MB5 / *MEDICAL BIOLOGICAL DEFENSE (EMD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
** ADM - Facility Operations Feasibility Plan	1	2014	2	2014
ADM - Procure Equipment	1	2014	1	2015
ADM - Establish ADM Capability	1	2014	2	2015
ADM - Commissioning and Validation	1	2014	2	2015
ADM - Qualification And Commissioning Report	2	2015	2	2015
** BSV - JUPITR ATD	1	2014	4	2017
BSV - JUPITR ATD Op Demo	3	2015	4	2015
BSV - Biological Identification Capability Sets (BICS) Exercises	1	2014	3	2015
BSV - Assessment of Environmental Detectors (AED)	1	2014	3	2014
BSV - Residual Purchase - Additional Systems	2	2016	2	2016
BSV - Transition of purchase of residual end items	4	2015	4	2017
** CRP - Expand Select Biological Threat Agent Reference Materials	1	2014	2	2017
CRP - Development of Assays	1	2014	2	2017
CRP - Development and Implementation of Quality Initiatives, Validation Program, and Systems Engineering, QA/QC testing	1	2014	2	2017
CRP - ISO certification	1	2014	4	2017
CRP - Enabling early warning tools and information exchange	1	2014	4	2017
CRP - Surveillance capabilities	1	2014	4	2017
** EID TX - EID TX-Flu Conduct Phase 2 Bridging Safety Study	1	2014	2	2014
EID TX - EID TX-Flu Phase 3 Clinical Trials required for FDA approval	1	2014	3	2015
EID TX - EID TX-Flu Manufacture FDA Required Registration Batches	4	2014	4	2015
EID TX - EID TX-Flu Prepare and Submit NDA Package to FDA	2	2015	3	2016

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MB5 / *MEDICAL BIOLOGICAL DEFENSE (EMD)*

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
EID TX - EID TX-Flu MS C Decision	3	2016	3	2016
EID TX - EID TX-LE Milestone B	4	2015	4	2015
EID TX - EID TX-LE Initiate and Complete Dose Ranging and Schedule Studies	1	2016	4	2016
** HFV - Ebola Milestone B Decision	2	2015	2	2015
HFV - Pivotal Animal Efficacy Studies for HFV MCMs	1	2015	3	2017
HFV - Ebola Phase 3 Expanded Safety Clinical Trial	1	2017	4	2018
** NGDS - NGDS TD Phase	4	2014	2	2016
NGDS - NGDS EMD Phase	2	2016	3	2018
NGDS - FDA clearance for additional assays, Integration, Connectivity	3	2016	3	2016
** VAC BOT - Non-Clinical Testing (Pivotal Efficacy)	1	2014	3	2020
VAC BOT - Technology Transfer to New CMO/Manufacturing & Production of Consistency Lots	2	2014	2	2017
VAC BOT - Phase 3 Clinical Trial (A/B)	3	2018	3	2020
VAC BOT - Milestone C/LRIP	4	2017	4	2017
** VAC PLG - Consistency Lot Production	1	2014	1	2015
VAC PLG - FDA Required Passive Transfer Studies	1	2014	4	2014
VAC PLG - Non-Clinical Studies Pivotal Animal Efficacy	1	2015	3	2016
VAC PLG - Milestone C/LRIP	2	2015	2	2015
VAC PLG - Phase 3 Clinical Trial/IND Submission for Consistency Lot Production	2	2016	2	2018
VAC PLG - Biological Licensure Application (BLA) Submission	2	2018	2	2018
VAC PLG - FDA Licensure	1	2019	1	2019
** VAC SIP - Storage, distribution, potency testing, biosurety compliance activities	1	2014	4	2020

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) MC5 / *MEDICAL CHEMICAL DEFENSE (EMD)*	

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
MC5: *MEDICAL CHEMICAL DEFENSE (EMD)*	-	40.973	48.529	42.913	-	42.913	49.322	38.153	25.158	6.371	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This project provides for the development of medical materiel and other medical equipment items necessary to provide an effective capability for medical defense against chemical warfare agent threats facing U.S. forces in the field. This project supports efforts in the System Development and Demonstration (SDD) phase of the acquisition strategy for prophylactic, pre-treatment, and therapeutic drugs and diagnostic medical devices for the protection, treatment, detection, and medical management of chemical warfare agent exposures. Project funds research and development of safety studies, manufacturing scale-up, process validation, drug interaction, performance test, and submission of the Food and Drug Administration (FDA) drug licensure application(s). This program currently funds: (1) Bioscavenger (BSCAV), a new capability, to be used as a prophylaxis against nerve agents; (2) Advanced Anticonvulsant System (AAS), which consists of the drug midazolam in an autoinjector, to be used as an enhanced treatment for nerve agent induced seizures and will be a replacement for the currently fielded Convulsant Antidote for Nerve Agent (CANA) autoinjector, which uses diazepam; and (3) Improved Nerve Agent Treatment System (INATS) an enhanced nerve agent treatment regimen consisting of an improved oxime to replace the current fielded oxime 2-pralidoxime chloride (2-PAM), a centrally acting therapeutic to increase survival, and studies to generate data to support use of pyridostigmine bromide (PB), as a pretreatment for nerve agents in addition to soman.

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: 1) AAS ***FY 2014 Accomplishments:*** Completed activities associated with resubmission of the NDA prior to FDA licensure.	1.000	-	-
Title: 2) AAS ***FY 2014 Accomplishments:*** Initiated and completed market research of alternative autoinjector manufacturers and reverse engineering of the currently fielded autoinjector.	4.704	-	-
Title: 3) BSCAV ***FY 2014 Accomplishments:*** Continued and completed re-establishment of a manufacturing line.	11.972	-	-
Title: 4) BSCAV ***FY 2014 Accomplishments:***	16.776	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *MEDICAL CHEMICAL DEFENSE (EMD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Initiated and completed medium scale technology transfer manufacturing runs.			
Title: 5) BSCAV ***FY 2014 Accomplishments:*** Initiated storage and stability testing of purified product. ***FY 2015 Plans:*** Continue storage and stability testing of purified product. ***FY 2016 Plans:*** Continue storage and stability testing of purified product.	2.818	2.000	2.050
Title: 6) BSCAV ***FY 2015 Plans:*** Initiated engineering and scale-up manufacturing runs. ***FY 2016 Plans:*** Complete engineering and scale-up manufacturing runs.	-	11.048	5.000
Title: 7) BSCAV ***FY 2015 Plans:*** Initiate pilot nonclinical toxicity and pharmacokinetic (PK) and efficacy studies. ***FY 2016 Plans:*** Complete pilot nonclinical toxicity and pharmacokinetic (PK) and efficacy studies.	-	9.312	5.195
Title: 8) BSCAV ***FY 2015 Plans:*** Initiate Current Good Manufacturing Practice (cGMP) manufacturing for clinical and nonclinical studies. ***FY 2016 Plans:*** Continue cGMP manufacturing for clinical and nonclinical studies.	-	10.829	6.543
Title: 9) BSCAV ***FY 2015 Plans:*** Initiate phase 1 clinical pharmacokinetic (PK) and safety studies. ***FY 2016 Plans:***	-	9.522	7.285

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *MEDICAL CHEMICAL DEFENSE (EMD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Complete phase 1 clinical pharmacokinetic (PK) and safety studies.			
Title: 10) BSCAV ***FY 2016 Plans:*** Initiate Phase 2 clinical and safety studies.	-	-	5.542
Title: 11) INATS ***FY 2014 Accomplishments:*** Initiated nonclinical studies to expand indications for the currently fielded pyridostigmine bromide (PB) component of the INATS system of systems. ***FY 2015 Plans:*** Continue nonclinical studies to expand indications for pyridostigmine bromide (PB). ***FY 2016 Plans:*** Continue nonclinical studies to expand indications for pyridostigmine bromide (PB).	3.703	0.840	1.450
Title: 12) INATS ***FY 2015 Plans:*** Initiate and complete centrally-acting formulation development.	-	3.295	-
Title: 13) INATS ***FY 2015 Plans:*** Initiate nonclinical studies to evaluate the efficacy of centrally-acting therapeutics with fielded oxime ***FY 2016 Plans:*** Complete nonclinical studies to evaluate the efficacy of centrally-acting therapeutics with fielded oxime.	-	0.995	2.703
Title: 14) INATS ***FY 2016 Plans:*** Initiate and complete pilot scale development of oxime bulk drug substance (BDS) and final drug product (FDP).	-	-	4.326
Title: 15) INATS ***FY 2016 Plans:*** Initiate oxime current Good Manufacturing Practice (cGMP) efforts and manufacture of clinical trial material.	-	-	2.819
Title: 16) SBIR/STTR	-	0.688	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *MEDICAL CHEMICAL DEFENSE (EMD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
FY 2015 Plans: SBIR/STTR - FY15 - Small Business Innovative Research.			
Accomplishments/Planned Programs Subtotals	40.973	48.529	42.913

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
• JM6677: *ADVANCED ANTICONVULSANT SYSTEM (AAS)*	-	2.500	11.133	-	11.133	-	-	-	-	-	13.633

Remarks

D. Acquisition Strategy

ADVANCED ANTICONVULSANT SYSTEM (AAS)

The Advanced Anticonvulsant System, consists of Midazolam in an autoinjector for treatment of nerve agent induced seizures. Midazolam, injected intramuscularly, will treat traditional nerve agent and non-traditional agent-induced seizures and prevent subsequent neurological damage. Midazolam is more water-soluble than diazepam (the currently fielded medication to control nerve agent-induced seizures) and terminates nerve agent-induced seizures more quickly than diazepam. AAS will not eliminate the need for other protective and therapeutic systems.

A contractor shall be responsible for conducting activities associated with drug development in a manner consistent with eventual approval by the Food and Drug Administration (FDA). The contractor shall sponsor the drug to the FDA and hold all approvals and/or licenses. During the System Development and Demonstration (SDD) Phase, large scale manufacturing, Phase 2 human clinical safety studies and definitive animal efficacy studies will be conducted. FDA approval of the countermeasure is an exit criterion for the SDD phase. During the Production and Deployment Phase, sufficient quantities of product to meet Initial Operational Capability will be purchased. Subsequent purchases will be made by the Defense Logistics Agency. Any post-marketing surveillance requested by the FDA will be the responsibility of the contractor.

In addition, the program will assess the viability of establishing an alternative manufacturing capability for currently fielded autoinjectors used for therapeutic treatment and medical management of chemical warfare agent exposures.

BIOSCAVENGER (BSCAV)

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *MEDICAL CHEMICAL DEFENSE (EMD)*

Used a serial evaluation of candidates to achieve competitive prototyping in the Technology Development Phase which culminated in a down-select decision. The Bioscavenger program issued a Request For Proposal (RFP) to select the best value for the government for a prophylaxis to support an initial limited user group. During the System Development and Demonstration (SDD) phase the program will continue to exercise management oversight with system integration support of a commercial partner to ensure that manufacturing of the product is in accordance with Food and Drug Administration (FDA) regulations and guidelines. The RFP for product manufacturing includes options for transition to the Medical Countermeasures Initiative (MCMI) Advanced Development and Manufacturing (ADM) capability. Prior to FDA licensure, a commercial partner will perform a Phase 2 human clinical safety study, definitive animal efficacy studies, and toxicology studies. The system integrator will also develop and manufacture a product formulation and delivery system and will submit a New Drug Application and seek FDA approval. The SDD phase will culminate in FDA licensure of the Bioscavenger. During the Production and Deployment phase, the Bioscavenger program, in conjunction with a commercial partner, will pursue full rate production and conduct any FDA-mandated post-marketing surveillance studies. Concurrently the Bioscavenger program will conduct an analysis of alternative manufacturing technologies, investigate additional product indications, and pursue an expanded force prophylaxis once alternate technologies have matured.

IMPROVED NERVE AGENT TREATMENT SYSTEM (INATS)

The Improved Nerve Agent Treatment System (INATS) advanced development provides an enhanced capability treatment regimen offering greater protection over a broader spectrum of toxic nerve agent threats. Components of the development include (1) a new and improved oxime (replacing 2-pralidoxime chloride (2-PAM)) to provide protection across current and emerging threats, (2) expanded nerve agent indications for a fielded, single indication, pyridostigmine bromide (PB) product, and (3) insertion of a centrally-acting (CA) anticholinergic agent to the treatment regimen to increase survivability and decrease morbidity. The INATS treatment regimen both improves the performance of, and eventually replaces the Antidote Treatment Nerve Agent Auto-injector (ATNAA), while expanding warfighter pretreatment options.

INATS' evolutionary Acquisition Strategy, recently expanded by the Joint Program Executive Office, Chemical and Biological Defense (JPEO-CBD) to (1) align all Department of Defense nerve agent therapeutics under it, and to (2) insert a centrally-acting (CA) anticholinergic agent, employs an incremental approach to provide independent, and more rapid deliveries of oxime, expanded PB indications, and CA capabilities than in a combined treatment regimen delivery. To accomplish this, separate Milestone B and C reviews for the oxime and CA developments, and decision reviews for PB expansion beyond the combined-development Technology Maturation and Risk Reduction (TM&RR) Phase will be conducted. In the TMRR phase, close collaborations will occur between the Joint Program Manager - Medical Countermeasure Systems (JPM-MCS)), and the science/ technology, and user communities to assess technical viability, capability delivery options, and to refine operational concepts; the Government will be the systems integrator overseeing the conduct of oxime and centrally acting formulation development efforts, nonclinical toxicology and efficacy studies, clinical safety studies, and efficacy studies addressing the PB indication. In the Engineering and Manufacturing Development (EMD) phase for the oxime and CA each capability, the Government will continue as system integrator with integration support from commercial partners to ensure that INATS development and manufacture is in accordance with Food and Drug Administration (FDA) regulations and guidelines; the commercial integration partner(s) will perform a Phase 2 human clinical safety study, nonclinical toxicology studies and definitive animal efficacy studies; the system integrator will also oversee the manufacture of improved oxime and CA formulations and delivery system that is stable under operationally relevant temperatures. The system integrator will submit a New Drug Application and seek FDA approval for the INATS product. In the Production and Deployment (P&D) Phase, the system integrator, with a commercial partner, will pursue full-rate and stockpile production and will conduct any FDA mandated post-marketing surveillance studies; the system integrator will transfer contracting/logistical responsibilities to the Defense Logistics Agency (DLA) while remaining to monitor program performance through disposal as the life-cycle manager.

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *MEDICAL CHEMICAL DEFENSE (EMD)*

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *MEDICAL CHEMICAL DEFENSE (EMD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** AAS - SW C - Resubmission of NDA	C/CPIF	Meridian Medical Technologies Inc. : Columbia, MD	0.000	0.830	Jun 2014	-		-		-		-	Continuing	Continuing	-
HW S - Alternative Autoinjector	PO	Battelle Memorial Institute : Columbus, OH	0.000	4.154	Jun 2014	-		-		-		-	Continuing	Continuing	-
** BSCAV - BSCAV - HW C - Re-establish manufacturing line	C/CPFF	DynPort Vaccine Company (DVC) LLC. : Frederick, MD	14.200	10.450	Dec 2013	-		-		-		-	Continuing	Continuing	-
BSCAV - HW S - cGMP Manufacturing and Process Validation	C/CPFF	DynPort Vaccine Company (DVC) LLC. : Frederick, MD	0.000	14.643	Mar 2014	9.740	Feb 2015	6.440	Feb 2016	-		6.440	Continuing	Continuing	-
BSCAV - SW S - Engineering and Scale up Manufacturing	C/CPFF	DynPort Vaccine Company (DVC) LLC. : Frederick, MD	0.000	-		9.650	Mar 2015	4.100	Mar 2016	-		4.100	Continuing	Continuing	-
** INATS - INATS - HW C - Pilot Scale Development of Drug Product	PO	TBD :	0.000	-		-		3.983	Jan 2016	-		3.983	Continuing	Continuing	-
INATS - HW C - cGMP Efforts and Manufacture of Material	PO	TBD :	0.000	-		-		3.040	Apr 2016	-		3.040	Continuing	Continuing	-
INATS - HW S - Centrally Acting Formulation Development	PO	Battelle Memorial Institute : Columbus, OH	0.000	-		2.625	Dec 2014	-		-		-	Continuing	Continuing	-
		Subtotal	14.200	30.077		22.015		17.563		-		17.563	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** INATS - INATS - ILS S - Regulatory Support	PO	Battelle Memorial Institute : Columbus, OH	0.000	0.224	Jun 2014	0.205	Jun 2015	0.245	Jun 2016	-		0.245	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *MEDICAL CHEMICAL DEFENSE (EMD)*

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** ZSBIR - SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	TBD :	0.000	-		0.688		-		-		-	Continuing	Continuing	-
		Subtotal	0.000	0.224		0.893		0.245		-		0.245	-	-	-

Test and Evaluation ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** BSCAV - BSCAV - OTHT S - Stability Testing	C/CPFF	DynPort Vaccine Company (DVC) LLC. : Frederick, MD	1.400	1.430	Jan 2014	1.754	Jan 2015	1.920	Jan 2016	-		1.920	Continuing	Continuing	-
BSCAV - OTHT S - Phase 1 PK and Safety Studies	C/CPFF	DynPort Vaccine Company (DVC) LLC. : Frederick, MD	0.000	-		8.807	Mar 2015	5.940	Mar 2016	-		5.940	Continuing	Continuing	-
BSCAV - OTHT S - Phase 2 Clinical Trial	C/CPFF	DynPort Vaccine Company (DVC) LLC. : Frederick, MD	0.000	-		-		4.235	Dec 2015	-		4.235	Continuing	Continuing	-
BSCAV - OTHT S - Pilot Nonclinical PK Efficacy Studies	C/CPFF	DynPort Vaccine Company (DVC) LLC. : Frederick, MD	0.000	-		8.360	Jan 2015	4.250	Dec 2015	-		4.250	Continuing	Continuing	-
** INATS - INATS - DTE S - Nonclinical Studies for PB	PO	Battelle Memorial Institute : Columbus, OH	0.000	3.194	Jan 2014	0.700	Jan 2015	0.910	Jan 2016	-		0.910	Continuing	Continuing	-
INATS - DTE S - Centrally Acting Nonclinical Studies - Oxime / 2-PAM	PO	Battelle Memorial Institute : Columbus, OH	0.000	-		0.650	Dec 2014	1.960	Dec 2015	-		1.960	Continuing	Continuing	-
		Subtotal	1.400	4.624		20.271		19.215		-		19.215	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) MC5 / *MEDICAL CHEMICAL DEFENSE (EMD)*	

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** AAS - PM/MS C - Medical Countermeasure Systems (MCS)	Allot	JPM Medical Countermeasure Systems (JPM MCS) : Fort Detrick, MD	1.377	0.350	Dec 2013	-		-		-		-	Continuing	Continuing	-
PM/MS S - Program Management Support	PO	JPEO Chem/Bio Defense (JPEO-CBD) : Aberdeen Proving Ground, MD	0.000	0.370	Sep 2014	-		-		-		-	Continuing	Continuing	-
** BSCAV - BSCAV - PM/MS S - MCS Management Support	Allot	JPM Medical Countermeasure Systems (JPM MCS) : Fort Detrick, MD	0.701	1.347	Mar 2014	1.100	Mar 2015	1.300	Mar 2016	-		1.300	Continuing	Continuing	-
BSCAV - PM/MS S - Product Management Support	C/FFP	Various :	0.730	1.440	Jun 2014	1.460	Jun 2015	1.470	Jun 2016	-		1.470	Continuing	Continuing	-
BSCAV - PM/MS S - Product Management Support #2	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.215	0.581	Mar 2014	0.440	Mar 2015	0.460	Mar 2016	-		0.460	Continuing	Continuing	-
BSCAV - PM/MS C - Program Management Support	Allot	JPEO Chem/Bio Defense (JPEO-CBD) : Aberdeen Proving Ground, MD	0.150	1.675	Sep 2014	1.400	Sep 2015	1.500	Sep 2016	-		1.500	Continuing	Continuing	-
** INATS - INATS - PM/MS S - Product Management Support	Allot	JPM Medical Countermeasure Systems (JPM MCS) : Fort Detrick, MD	0.000	0.145	Dec 2013	0.155	Dec 2014	0.160	Dec 2015	-		0.160	Continuing	Continuing	-
INATS - PM/MS S - Program Management Support	Allot	JPEO Chem/Bio Defense (JPEO-CBD) : Aberdeen Proving Ground, MD	0.000	0.140	Sep 2014	0.330	Sep 2015	0.480	Sep 2016	-		0.480	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *MEDICAL CHEMICAL DEFENSE (EMD)*

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
INATS - PM/MS S - Product Management Support	C/FFP	Various :	0.000	-		0.465	Jun 2015	0.520	Jun 2016	-		0.520	Continuing	Continuing	-
		Subtotal	3.173	6.048		5.350		5.890		-		5.890	-	-	-

	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	18.773	40.973		48.529		42.913		-		42.913	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *MEDICAL CHEMICAL DEFENSE (EMD)*

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *MEDICAL CHEMICAL DEFENSE (EMD)*	

	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
INATS - Manufacture of Clinical Trial Material													[redacted]															

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** MC5 / *MEDICAL CHEMICAL DEFENSE (EMD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
** AAS - New Drug Application (NDA) Preparation and Submission	1	2014	4	2014
AAS - Alternative autoinjector source development	2	2014	4	2014
** BSCAV - Establish Manufacturing Line and Complete Medium Scale Manufacturing Runs	1	2014	4	2014
BSCAV - Storage and Stability Testing of Purified Product	1	2014	4	2017
BSCAV - Engineering and Scale up Manufacturing	2	2014	4	2015
BSCAV - Manufacturing & Process Qualification at Small Scale	3	2014	1	2017
BSCAV - Nonclinical Toxicity PK and LD50 Studies	1	2015	1	2017
BSCAV - cGMP Manufacturing	1	2015	3	2018
BSCAV - Phase 1 Pilot PK and Clinical Studies	2	2015	1	2017
BSCAV - Milestone C	3	2018	3	2018
BSCAV - Phase 2 Clinical Trial	1	2016	1	2019
BSCAV - Conduct PK and efficacy bridging studies	1	2014	1	2014
** INATS - Pre SDD Review	3	2015	3	2015
INATS - Milestone B	1	2016	1	2016
INATS - Centrally Acting Formulation Development	1	2015	4	2015
INATS - Nonclinical Studies - Centrally Acting	1	2015	3	2016
INATS - PB Studies	3	2014	2	2017
INATS - Development of BDS/FDP - Oxime	2	2016	4	2016
INATS - Manufacture of Clinical Trial Material	4	2016	2	2017

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program											Date: February 2015	
Appropriation/Budget Activity 0400 / 5					R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*				Project (Number/Name) TE5 / *TEST & EVALUATION (EMD)*			
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**
TE5: *TEST & EVALUATION (EMD)*	-	22.867	9.176	6.053	-	6.053	6.255	6.493	6.311	6.310	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

This funding supports the Chemical Biological Defense Portfolio (CBDP) Test Equipment, Strategy, and Support (TESS) efforts. TESS provides test infrastructure products for testing and evaluating chemical and biological defense systems throughout the life cycle acquisition process. TESS test infrastructure products are aligned in four groups to include: (1) Sense Laboratory (Chemical); (2) Sense Laboratory ((Biological); (3) Sense (Field); and (4) Individual Protection, Collective Protection and Decontamination (Shield and Sustain).

(1) Sense Laboratory (Chemical) : The products for this area are the Dynamic Test Chamber (DTC) for chemical point sensors, and Non-Traditional Agent Defense Test System (NTADTS). The DTC provides a new capability for testing chemical point detection systems against chemical warfare agents in various environmental conditions. The NTADTS provides a new capability to conduct chemical defense testing against current and emerging threats. The NTADTS supports testing of Decontamination, Collective Protection, Individual Protection, and Contamination Avoidance products. The CBD acquisition programs supported are Dismounted Reconnaissance Sets Kits and Outfits (DR SKO), Next Generation Chemical Detector (NGCD), Joint Sensitive Equipment Wipes (JSEW), and Common Analytical Laboratory System (CALS).

(2) Sense Laboratory (Biological): The product for this area is the Whole System Live Agent Test (WSLAT) Chamber. The WSLAT Chamber supports testing of all biological point detection systems in production configuration in biological live agent Biological Safety Level 3 (BSL-3) environments. The CBD acquisition programs supported are the Joint Biological Tactical Detection System (JBTDS) and the Joint USFK Point and Integrated Threat Recognition (JUPITR) Advanced Technology Demonstration (ATD).

(3) Sense (Field): The product for this area is a fully instrumented simulant Test Grid. The Test Grid effort provides a fully instrumented grid for chemical and biological simulant field test capabilities that integrate referee systems; dissemination equipment; cloud tracking equipment; meteorological equipment; and test Data Management System (DMS). The CBD acquisition programs supported are the Joint Expeditionary Collective Protection (JECP), Next Generation Chemical Detector (NGCD), Joint Biological Tactical Detection System (JBTDS) and the Joint USFK Point and Integrated Threat Recognition (JUPITR) Advanced Technology Demonstration (ATD).

(4) Individual Protection, Collective Protection and Decontamination (Shield and Sustain): IPEMS provides an articulated robotic mannequin that simulates Warfighters activities and includes under ensemble agent sensing capability for evaluating IPE against chemical warfare agents. IPEMS consists of an articulated robotic mannequin, exposure chamber, control room, and real time under-ensemble sensor system. The individual protective equipment CBD programs supported include: Uniform Integrated Protection Ensemble Increment 1 (UIPE 1), UIPE Increment 2, Joint Service Aircrew Mask Fixed Wing (JSAM FW) and Rotary Wing (JSAM RW), and the Joint Service General Purpose Mask (JSGPM).

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** TE5 / *TEST & EVALUATION (EMD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Title: 1) PD TESS - Dynamic Test Chamber (DTC) ***FY 2014 Accomplishments:*** Supported pre-validation of chamber. ***FY 2015 Plans:*** Initiate validation of chamber. ***FY 2016 Plans:*** Validate chamber. Initiate upgrade for Next Generation Chemical Detector (NGCD) use.	1.612	0.463	1.211
Title: 2) PD TESS - Non-Traditional Agent Defense Test System (NTADTS) ***FY 2014 Accomplishments:*** Continued verification and test system commissioning. ***FY 2015 Plans:*** Complete test system validation. Transition test system to the Chemical and Biological (CB) Test and Evaluation (T&E) community. ***FY 2016 Plans:*** Transition additional validated test subsystems to the CB T&E community.	6.888	4.272	2.502
Title: 3) PD TESS - Test Grid ***FY 2014 Accomplishments:*** Completed component verification. Initiated transition planning of Test Grid capabilities. ***FY 2015 Plans:*** Complete validation and transition initial capability. Initiate test capability upgrade. ***FY 2016 Plans:*** Complete verification and validation of test capability upgrade IOC and transition of capabilities to CB T&E community.	12.017	4.316	2.340
Title: 4) PD TESS - Joint Biological Tactical Detection System Test Infrastructure ***FY 2014 Accomplishments:*** Conducted validation activities on the Whole System Live Agent (WSLAT) Chamber for modifications supporting JBTDS Test Infrastructure.	0.836	-	-
Title: 5) PD TESS Management Services ***FY 2014 Accomplishments:***	1.514	-	-

Exhibit R-2A, RDT&E Project Justification: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** TE5 / *TEST & EVALUATION (EMD)*

B. Accomplishments/Planned Programs ($ in Millions)	FY 2014	FY 2015	FY 2016
Continued to provide headquarters-level program/financial management, technology assessment, contracting, acquisition oversight and technical support.			
Title: 6) SBIR/STTR	-	0.125	-
FY 2015 Plans: SBIR/STTR - FY15 - Small Business Innovative Research.			
Accomplishments/Planned Programs Subtotals	22.867	9.176	6.053

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
• TE7: *TEST & EVALUATION (OP SYS DEV)*	3.646	5.984	4.091	-	4.091	5.107	5.169	5.376	5.461	Continuing	Continuing

Remarks

D. Acquisition Strategy

TEST EQUIPMENT, STRATEGY & SUPPORT (PD TESS)

TESS efforts are supported through competitive contract actions, academia, and other Government agencies. Infrastructure solutions will leverage commercially available systems to provide state-of-the-art capabilities that address current and future CBDP test and evaluation needs.

E. Performance Metrics

N/A

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** TE5 / *TEST & EVALUATION (EMD)*

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** PD TESS - Test Infrastructure - HW S - DTC Fabrication/ Installation	MIPR	Johns Hopkins University - Applied Physics Lab : Laurel, MD	3.974	0.550	Mar 2014	0.300	Mar 2015	0.600	Mar 2016	-		0.600	Continuing	Continuing	-
Test Infrastructure - HW S - Test Grid Instrumentation/Data Network	MIPR	Dugway Proving Ground (DPG) : Dugway, UT	3.095	1.797	Mar 2014	0.600	Mar 2015	0.650	Mar 2016	-		0.650	Continuing	Continuing	-
Test Infrastructure - HW S - Test Grid Instrumentation Data Network	C/CPFF	ITT Information Systems : Alexandria, VA	18.942	8.359	Mar 2014	2.070	Mar 2015	1.050	Mar 2015	-		1.050	Continuing	Continuing	-
Test Infrastructure - HWS - NTA Defense Test System Design/Fabrication/ Installation	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.740	-		0.700	Mar 2015	-		-		-	Continuing	Continuing	-
Test Infrastructure - HW S - NTA Defense Test System Design, Fabrication, Install	C/CPFF	MRIGlobal : Kansas City, MO	3.900	5.766	Mar 2014	-		-		-		-	Continuing	Continuing	-
Test Infrastructure - HW S - Test Grid	MIPR	Various :	0.000	0.504	Mar 2014	0.124	Mar 2015	-		-		-	Continuing	Continuing	-
Test Infrastructure - SW GFPR - DTC Fabrication/ Installation	MIPR	Dugway Proving Ground (DPG) : Dugway, UT	0.000	0.350	Mar 2014	-		0.200	Mar 2016	-		0.200	Continuing	Continuing	-
Test Infrastructure - HW S - NTADTS Support	MIPR	Various :	0.000	-		2.066	Mar 2015	1.800	Mar 2016	-		1.800	Continuing	Continuing	-
Test Infrastructure - HW S - DTC - Engineering Support	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.000	0.100	Mar 2014	-		-		-		-	Continuing	Continuing	-
Test Infrastructure - HW S - JBTDS TI - Engineering Support	MIPR	Dugway Proving Ground (DPG) : Dugway, UT	0.262	0.300	Mar 2014	-		-		-		-	Continuing	Continuing	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) TE5 / *TEST & EVALUATION (EMD)*	

Product Development ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
HW S - JBTDS TI - Engineering Support	MIPR	Edgewood Chemical Biological Center (ECBC) : Aberdeen Proving Ground, MD	0.239	0.110	Mar 2014	-		-		-		-	Continuing	Continuing	-
HW S - JBTDS TI - Engineering Support	MIPR	Various :	0.000	0.310	Mar 2014	-		-		-		-	Continuing	Continuing	-
		Subtotal	31.152	18.146		5.860		4.300		-		4.300	-	-	-

Support ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** PD TESS - Test Infrastructure - ES S - Integrated Product Team (IPT) Support	MIPR	Various :	11.464	2.807	Dec 2013	1.376	Dec 2014	0.400	Dec 2015	-		0.400	Continuing	Continuing	-
** ZSBIR - SBIR/STTR - Aggregated from ZSBIR-SBIR/STTR	PO	TBD :	0.000	-		0.125		-		-		-	Continuing	Continuing	-
		Subtotal	11.464	2.807		1.501		0.400		-		0.400	-	-	-

Management Services ($ in Millions)

Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	FY 2014 Cost	FY 2014 Award Date	FY 2015 Cost	FY 2015 Award Date	FY 2016 Base Cost	FY 2016 Base Award Date	FY 2016 OCO Cost	FY 2016 OCO Award Date	FY 2016 Total Cost	Cost To Complete	Total Cost	Target Value of Contract
** PD TESS - Test Infrastructure - PM/MS S - Program Management/ Systems Engineering Support	MIPR	JPM NBC Contamination Avoidance (JPM NBC CA) : JPEO, Aberdeen Proving Ground, MD	3.934	1.914	Dec 2013	1.815	Dec 2014	1.353	Dec 2015	-		1.353	Continuing	Continuing	-
		Subtotal	3.934	1.914		1.815		1.353		-		1.353	-	-	-

Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Chemical and Biological Defense Program			Date: February 2015
Appropriation/Budget Activity 0400 / 5	R-1 Program Element (Number/Name) PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	Project (Number/Name) TE5 / *TEST & EVALUATION (EMD)*	

	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	46.550	22.867		9.176		6.053		-		6.053	-	-	-

Remarks

Exhibit R-4, RDT&E Schedule Profile: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** TE5 / *TEST & EVALUATION (EMD)*

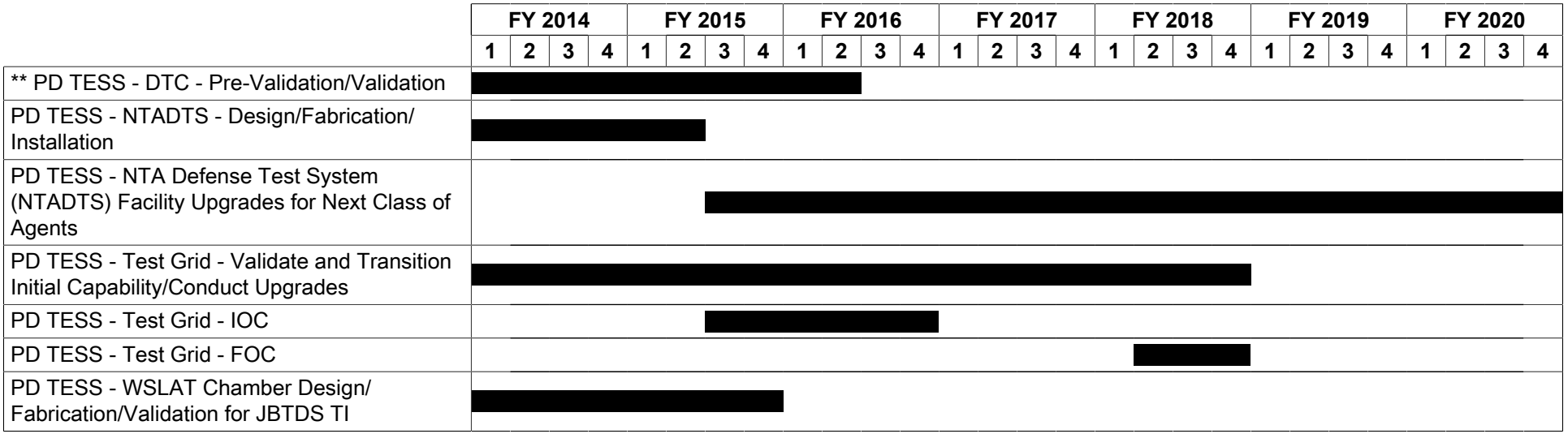

Exhibit R-4A, RDT&E Schedule Details: PB 2016 Chemical and Biological Defense Program		Date: February 2015
Appropriation/Budget Activity 0400 / 5	**R-1 Program Element (Number/Name)** PE 0604384BP / *CHEMICAL/BIOLOGICAL DEFENSE (EMD)*	**Project (Number/Name)** TE5 / *TEST & EVALUATION (EMD)*

Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
** PD TESS - DTC - Pre-Validation/Validation	1	2014	2	2016
PD TESS - NTADTS - Design/Fabrication/Installation	1	2014	2	2015
PD TESS - NTA Defense Test System (NTADTS) Facility Upgrades for Next Class of Agents	3	2015	4	2020
PD TESS - Test Grid - Validate and Transition Initial Capability/Conduct Upgrades	1	2014	4	2018
PD TESS - Test Grid - IOC	3	2015	4	2016
PD TESS - Test Grid - FOC	2	2018	4	2018
PD TESS - WSLAT Chamber Design/Fabrication/Validation for JBTDS TI	1	2014	4	2015