Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Defense Threat Reduction Agency

APPROPRIATION/BUDGET ACTIVITY R-1 ITEM NO

0400: Research, Development, Test & Evaluation, Defense-Wide

BA 5: System Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0605000BR: WMD Defeat Capabilities

DATE: April 2013

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COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 <sup>#</sup>	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost
Total Program Element	7.826	5.750	5.749	12.901	-	12.901	12.967	15.518	15.941	16.194	Continuing	Continuing
RF: Detection and Forensics Technologies	-	0.000	0.000	6.906	-	6.906	6.890	7.159	7.400	7.500	Continuing	Continuing
RL: Nuclear & Radiological Effects	7.826	5.750	5.749	5.995	-	5.995	6.077	8.359	8.541	8.694	Continuing	Continuing

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

#### A. Mission Description and Budget Item Justification

This program element supports the development of system capabilities for the Countering Weapons of Mass Destruction (CWMD) mission. This funding specifically supports (1) the development of collaborative CWMD analysis capabilities between DoD and key interagency and international partners through a globally accessible net-centric framework in the form of the Integrated Weapons of Mass Destruction Toolset (IWMDT) and (2) technologies to meet national International Monitoring System (IMS) technology requirements in support of implementation, compliance, monitoring, and inspection for existing and emerging nuclear arms control activities under the Nuclear Arms Control Technology (NACT) program.

The WMD Defeat Capabilities program element supports the National Strategy for Countering Biological Threats priorities, and Weapons of Mass Destruction (WMD) monitoring requirements validated by the Office of the Under Secretary of Defense, Acquisition, Technology, and Logistics (OUSD AT&L). The general strategy spells out four focus areas: 1) Promote global health security efforts through building and improving international capacity to prevent, detect, and respond to infectious disease threats, whether caused by natural, accidental, or deliberate events, 2) Establish and reinforce norms against the misuse of the life sciences, 3) Expand of our capability to prevent, attribute, and apprehend those engaged in biological weapons proliferation or terrorism, with a focus on facilitating data sharing and knowledge discovery to improve integrated capabilities (Capability Expansion); and 4) Leveraging science, technology, and innovation through domestic and international partnerships and agreements to improve global capacity to respond to and recover from biological incidents (Leveraging Science). In addition to the broad priorities, there are specific objectives to support the WMD monitoring through Research, Development, Testing, and Evaluation (RDTE) in support of implementation, compliance, monitoring, and inspection for existing and emerging nuclear arms control activities. Details are provided in the R-2a exhibits.

Project RF-Detection and Forensics Technologies supports the Nuclear Arms Control Technologies (NACT) Program, conducting Research, Development, Testing, and Evaluation (RDT&E) to meet International Monitoring System (IMS) technology requirements in support of implementation, compliance, monitoring, and inspection for existing and emerging nuclear arms control activities.

Project RL-Nuclear & Radiological Effects develops and provides a real-time globally accessible net-centric framework which migrates the Defense Threat Reduction Agency (DTRA) chemical, biological, radiological, nuclear, and high explosive (CBRNE) modeling and simulation codes to provide an integrated suite of Combating WMD decision support capabilities.

PE 0605000BR: WMD Defeat Capabilities
Defense Threat Reduction Agency

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<sup>##</sup> The FY 2014 OCO Request will be submitted at a later date

Exhibit R-2, RDT&E Budget Item Justification: PB 2014 Defense Threat Reduction Agency

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

0400: Research, Development, Test & Evaluation, Defense-Wide

BA 5: System Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0605000BR: WMD Defeat Capabilities

B. Program Change Summary (\$ in Millions)	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total
Previous President's Budget	5.888	5.749	5.995	-	5.995
Current President's Budget	5.750	5.749	12.901	-	12.901
Total Adjustments	-0.138	0.000	6.906	-	6.906
<ul> <li>Congressional General Reductions</li> </ul>	-	-			
<ul> <li>Congressional Directed Reductions</li> </ul>	-	-			
<ul> <li>Congressional Rescissions</li> </ul>	-	-			
<ul> <li>Congressional Adds</li> </ul>	-	-			
<ul> <li>Congressional Directed Transfers</li> </ul>	-	-			
<ul> <li>Reprogrammings</li> </ul>	-	-			
SBIR/STTR Transfer	-0.138	-			
<ul> <li>Program Transfer: Nuclear Arms Control</li> </ul>	-	-	6.906	-	6.906
Technology (NACT) Program					

# **Change Summary Explanation**

The decrease from the previous President's Budget submission in FY 2012 is due to the internal SBIR transfer. The increase in FY 2014 is due to the transfer of the Nuclear Arms Control Technology (NACT) program from the United States Army to the Defense Threat Reduction Agency.

Exhibit R-2A, RDT&E Project J	Justification	: PB 2014 [	Defense Thre	eat Reducti	ion Agency					DATE: Apr	il 2013	
APPROPRIATION/BUDGET AC 0400: Research, Development, BA 5: System Development & Development	Test & Evalu		se-Wide			NOMENCLA DOBR: WMD		pabilities	PROJECT RF: Detect	tion and For	ensics Tech	nologies
COST (\$ in Millions)	All Prior Years		FY 2013 <sup>#</sup>	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2017 FY 2018		Total Cost
RF: Detection and Forensics Technologies	-	0.000	0.000	6.906	-	6.906	6.890	7.159	7.400	7.500	Continuing	Continuing
Quantity of RDT&E Articles												

<sup>\*</sup>FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

# A. Mission Description and Budget Item Justification

The Nuclear Arms Control Technology (NACT) Program provides Research, Development, Testing, and Evaluation (RDTE) to meet International Monitoring System (IMS) technology requirements in support of Comprehensive Nuclear Test Ban Treaty implementation, compliance, monitoring, and inspection and other existing and emerging nuclear arms control activities. The project directly provides for the US contribution to the IMS and addresses Weapons of Mass Destruction (WMD) monitoring requirements validated by the Office of the Under Secretary of Defense, Acquisition, Technology, and Logistics (OUSD AT&L). This project conforms to the Administration's research and development priorities as related to WMD arms control and disablement. Technical assessments are made to provide the basis for sound project development, evaluate existing programs and provide the data required to inform compliance assessments and support US monitoring policy and decision-makers and negotiation teams. The DTRA conducts technology developments and system improvement projects to ensure these monitoring capabilities are available when required.

Primary emphasis is on improved sensor sustainability, availability and detection capabilities against a wide range of threat or event origins and enhanced monitoring system sustainability and availability. The program includes development of monitoring and analysis equipment and capabilities and procedures for data exchanges, inspections, and analyses. The technologies and procedures developed in the NACT program provide a vital source of information on treaty mandated equipment and procedures that are extensively used by US and international agencies. This project also supports the warfighting capability area of combatting WMD.

The increase from FY 2013 to FY 2014 is due to the transfer of the Nuclear Arms Control Technology (NACT) program to the Defense Threat Reduction Agency (DTRA). The NACT program will transfer from United States Army Space Missile Development Command (SMDC) to DTRA beginning in FY 2014.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2012	FY 2013	FY 2014
Title: RF - Detection and Forensics Technologies	0.000	0.000	6.906
<b>Description:</b> Project RF-Detection and Forensics Technologies supports the Nuclear Arms Control Technologies (NACT) Program, conducting Research, Development, Testing, and Evaluation (RDT&E) to meet International Monitoring System (IMS) technology requirements in support of implementation, compliance, monitoring, and inspection for existing and emerging nuclear arms control activities.			
FY 2012 Accomplishments:			

PE 0605000BR: WMD Defeat Capabilities Defense Threat Reduction Agency

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<sup>##</sup> The FY 2014 OCO Request will be submitted at a later date

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Exhibit R-2A, RDT&E Project Justification: PB 2014 Defense Threat Red	uction Agency	_	DATE:	April 2013	
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 5: System Development & Demonstration (SDD)	R-1 ITEM NOMENCLATURE PE 0605000BR: WMD Defeat Capabilities	PROJE RF: De		Forensics Te	chnologies
B. Accomplishments/Planned Programs (\$ in Millions)  N/A			FY 2012	FY 2013	FY 2014
<b>FY 2013 Plans:</b> N/A					
FY 2014 Plans:  -Continue support of OSD treaty management objectives and continue particular Description of the Continue Secretariat (PTS) sponsored technology do in support of technology development and IMS operations and maintenance - Continue prototype sensor development, station calibration, and metrology - Continue development of monitoring station array element calibration with performance monitoring capabilities. Conduct signal capture and identification improve noise rejection methods and algorithms.  - Continue planning to evaluate options for performing experiments or demo a planned underground or underwater detonation. The detonation will be not release of suitable surrogate nuclear testing signatures. All associated sign regulations and of a nature suitable to challenge IMS monitoring technologie - Continue radio-xenon gas detection system development and research. Subackgrounds and transport phenomenon.  - Continue a study of baseline noble gas detection schemes and select the providing enhanced detection and operational capabilities and reliability. The feasibility of implementation alternatives.  - Continue infrasound information system enhancements and development detection, identification, and discrimination of sources and signatures of inte - Continue field experiments to collect data required to constrain and valida conditions, topography, 3-D winds and effects of non-linear propagation.  - Continue to develop a portable/rapid deployable infrasound array and star arrays.  - Continue on-location infrasound event calibration and metrology research centers (EDTC), continue development of EDTCs to support research, testir configuration changes, and invasive procedures, and use EDTCs to perform and related new technologies and all associated field testing.  - Continue R&D on support system to collect and prioritize station operator rest activities across the monitoring system. Focus areas continue to be implementationality, filtration medium and sample head, and electronic controls.	evelopment exchanges and developmental exerce objectives.  If planning.  If planning.  If planning to reduce signal clutter, false alarms, anstrations to evaluate system performance to me per-nuclear in nature but configured to simulate the atures will be acceptable to environmental and hear.  It is the total transport of the properties of the properti	and onitor ne nealth wenon otheric ations/			

Exhibit R-2A, RDT&E Project Justification: PB 2014 Defense Threat Reduction Agency

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY R-1 ITEM NOMENCLATURE PROJECT

0400: Research, Development, Test & Evaluation, Defense-Wide
BA 5: System Development & Demonstration (SDD)

PE 0605000BR: WMD Defeat Capabilities
RF: Detection and Forensics Technologies

#### B. Accomplishments/Planned Programs (\$ in Millions) FY 2012 FY 2013 FY 2014 - Continue US IMS sensor event signal identification technique research and development of the transportable xenon laboratory (TXL) and associated xenon detection system and prepare for international deployment exercises and demonstrations. Operations and maintenance performed in advance of the TXL foreign deployment will establish an operations baseline for this xenon monitoring capability and provide unique opportunities to diagnose and resolve remaining operational and technical concerns and issues, including investigating the "memory effect" recently encountered in these systems as a result of the unintended radio-xenon releases from the Fukushima reactors. Also planned is a continuation of infrasound event clutter and false alarm reduction, and noise mitigation analyses. - Continue to drive improvements in radionuclide detection and measurement, including xenon gas collection/analysis systems research. Evaluate detection limits, and yields. The PTS technical requirements dictate that the US radionuclide laboratory (RL-16) gas system requires additional capability to meet required detection thresholds. Develop test methods to increase xenon gas yields, improve detection efficiencies, and decrease dead volume. To ensure RL-16 is making a high precision measurement. analysis samples will be peer reviewed and calibrated at certified laboratories. - Continue to develop a robust, high-precision method to calibrate nuclear detectors and calibration methods to obtain the absolute calibration of the system's nuclear detector. **Accomplishments/Planned Programs Subtotals** 0.000 0.000 6.906

# C. Other Program Funding Summary (\$ in Millions)

	•	<del>-</del>	FY 2014	FY 2014	FY 2014					<b>Cost To</b>	
<u>Line Item</u>	FY 2012	FY 2013	<b>Base</b>	000	<u>Total</u>	FY 2015	FY 2016	FY 2017	FY 2018	<b>Complete</b>	<b>Total Cost</b>
<ul> <li>02/0602718BR: RF - Detection</li> </ul>	45.570	44.998	40.454		40.454	40.857	41.638	42.560	43.447	Continuing	Continuing
and Forensics Technologies											
<ul> <li>03/0603160BR: RF- Detection</li> </ul>	72.980	76.298	74.556		74.556	75.219	77.505	79.198	79.891	Continuing	Continuing
and Forensics Technologies										_	

#### Remarks

# D. Acquisition Strategy

Not Applicable

#### E. Performance Metrics

The Nuclear Arms Control Technology (NACT) program will transfer from US Army Space Missile Development Command (SMDC) to the Defense Threat Reduction Agency (DTRA) beginning in FY 2014. DTRA will complete the performance metrics for NACT following the completion of a FY 2014-18 NACT RDT&E planning review.

PE 0605000BR: WMD Defeat Capabilities
Defense Threat Reduction Agency

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Defense Threat Reduction Agency

APPROPRIATION/BUDGET ACTIVITY

R-1 ITEM NOMENCLATURE

PROJECT

0400: Research, Development, Test & Evaluation, Defense-Wide

PE 0605000BR: WMD Defeat Capabilities

RF: Detection and Forensics Technologies

DATE: April 2013

BA 5: System Development & Demonstration (SDD)

Support (\$ in Million	s)			FY 2	2012	FY 2	2013	FY 2 Ba	2014 ase	FY 2		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Radionuclide Analyses Technology	IA	Pacific Northwest National Laboratory:Richland, WA	-	-		-		2.731	Jan 2014	-		2.731	12.249	14.980	14.980
Seismic Waveform Analyses Technology	C/Various	University of Mississippi:Oxford, MS	-	-		-		3.100	Jan 2014	-		3.100	12.400	15.500	15.500
Engineering & Technical Services	Option/ CPFF	TASC, Inc.:Chantilly, VA	-	-		-		0.800	Dec 2013	-		0.800	3.200	4.000	4.000
		Subtotal	0.000	0.000		0.000		6.631		0.000		6.631	27.849	34.480	34.480

Management Service	s (\$ in M	illions)		FY 2	2012	FY 2	013	FY 2 Ba	2014 ise	FY 2		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
A&AS Support to Program Office	C/CPFF	*TASC, Inc.:Chantilly, VA	-	-		-		0.200	Dec 2013	-		0.200	0.800	1.000	1.000
Travel	C/Various	Various:Various	-	-		-		0.075	Dec 2013	-		0.075	0.300	0.375	0.375
		Subtotal	0.000	0.000		0.000		0.275		0.000		0.275	1.100	1.375	1.375

#### Remarks

\*Current contract will end in FY2015 and be re-competed.

									Target
	All Prior Years	FY 2012	FY 2013	FY 2014 Base	FY 2014 OCO	FY 2014 Total	Cost To	Total Cost	Value of
	Tears	F1 2012	F1 2013	Dase	000	IOlai	Complete	Cost	Contract
Project Cost Totals	0.000	0.000	0.000	6.906	0.000	6.906	28.949	35.855	35.855

#### Remarks

Remarks: The Nuclear Arms Control Technologies (NACT) Program provides Research, Development, Testing, and Evaluation (RDTE) to meet International Monitoring System (IMS) technology requirements in support of implementation, compliance, monitoring, and inspection for existing and emerging nuclear arms control activities. The project addresses WMD monitoring requirements validated by the Office of the Under Secretary of Defense, Acquisition, Technology, and Logistics (OUSD AT&L). This project conforms to the administrations research and development priorities as related to Weapons of Mass Destruction (WMD) arms control and disablement. Technical assessments are made to provide the basis for sound project development, evaluate existing programs and provide the data required to make compliance judgments and

PE 0605000BR: WMD Defeat Capabilities Defense Threat Reduction Agency

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Exhibit R-3, RDT&E Project Cost Analysis:	PB 2014 Defer	nse Threat Red	uction Agency			DATE	: April 201	13	
APPROPRIATION/BUDGET ACTIVITY			R-1 ITEM NOM	ENCLATURE	PROJ	IECT			
0400: Research, Development, Test & Evalua BA 5: System Development & Demonstration		Vide	PE 0605000BR:	: WMD Defeat Capa	abilities RF: D	etection an	d Forensid	cs Techn	nologies
	All Prior	EV 2042	EV 2042	FY 2014	FY 2014	FY 2014	Cost To	Total	Target Value of
support US monitoring policy- and decision-makers and	Years d negotiation teams	FY 2012	FY 2013	provement projects are	OCO	Total these	Complete	Cost	Contract
monitoring capabilities are available when required. N	S.E Guildin oc								

Exhibit R-4, RDT&E Schedule Profile: PB 2014 Defense Threat Reduction Agency

APPROPRIATION/BUDGET ACTIVITY

0400: Research, Development, Test & Evaluation, Defense-Wide
BA 5: System Development & Demonstration (SDD)

DATE: April 2013

R-1 ITEM NOMENCLATURE
PE 0605000BR: WMD Defeat Capabilities
PROJECT
RF: Detection and Forensics Technologies

		FY	201	2		FY	201	3		FY	2014	Į.		FY 2	015			FY 2	2016			FY	2017	,		FY 2	018	,
	1	2	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
Waveform and radionuclide monitoring capability enhancements														·														
System reliability and availability enhancements																												
System operations and efficiency improvements																												

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Defense Threat Reduction Agency

R-1 ITEM NOMENCLATURE

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

0400: Research, Development, Test & Evaluation, Defense-Wide

BA 5: System Development & Demonstration (SDD)

PE 0605000BR: WMD Defeat Capabilities

PROJECT

RF: Detection and Forensics Technologies

### Schedule Details

	St	art	E	nd
Events	Quarter	Year	Quarter	Year
Waveform and radionuclide monitoring capability enhancements	2	2014	4	2018
System reliability and availability enhancements	2	2014	4	2018
System operations and efficiency improvements	2	2014	4	2018

#### Note

The Nuclear Arms Control Technology (NACT) program will transfer from US Army Space Missile Development Command (SMDC) to the Defense Threat Reduction Agency (DTRA) beginning in FY 2014. DTRA will complete the Schedule Details for NACT, following the completion of a FY 2014-FY18 NACT RDT&E planning review.

Exhibit R-2A, RDT&E Project J	ustification:	PB 2014 D	Defense Thre	eat Reducti	on Agency					DATE: April 2013						
0400: Research, Development, 7	APPROPRIATION/BUDGET ACTIVITY  0400: Research, Development, Test & Evaluation, Defense-Wide  BA 5: System Development & Demonstration (SDD)							pabilities	PROJECT RL: Nuclea		gical Effect	's				
COST (\$ in Millions)	All Prior Years	FY 2012	FY 2013 <sup>#</sup>	FY 2014 Base	FY 2014 OCO ##	FY 2014 Total	FY 2015	FY 2016	FY 2017	FY 2018	Cost To Complete	Total Cost				
RL: Nuclear & Radiological Effects	7.826	5.750	5.749	5.995	-	5.995	6.077	8.359	8.541	8.694	Continuing	Continuing				
Quantity of RDT&E Articles																

<sup>\*</sup>FY 2013 Program is from the FY 2013 President's Budget, submitted February 2012

#### A. Mission Description and Budget Item Justification

This project supports the National Strategy for Countering Biological Threat priority/focus areas 3) Capability Expansion and 4) Leveraging Science. Under Project RL, the Net-Centric Architecture program integrates legacy capabilities and facilitates data sharing through a net-centric framework. It will provides near-real time collaborative analysis capabilities between DoD and key interagency and international partners through a globally accessible net-centric framework known as the Integrated Weapons of Mass Destruction Toolset (IWMDT). The IWMDT migrates Defense Threat Reduction Agency (DTRA) chemical, biological, radiological, nuclear, and high explosive (CBRNE) modeling and simulation codes to provide an integrated suite of Countering WMD decision support capabilities. The framework is the only operational CBRNE framework in the world which provides capabilities through web applications, net-centric web services, and stand-alone mobile deployments which are validated and accredited for operational use by International, National, State, and local authorities.

The Net-Centric Architecture program includes three functional areas: 1) IWMDT, 2) IWMDT Codes, and 3) Software Assurance, Certification, and Accreditation. The IWMDT functional area develops the architecture, defines and implements the standards to consolidate validated Defense Threat Reduction Agency (DTRA) tools, and through this architecture, enables rapid access for planning, emergency response, and assessment capabilities. These capabilities are used by a wide range of planners, managers, and operational and technical personnel facing the full spectrum of CBRNE threats. The IWMDT Codes functional area develops analysis and simulation codes, and then integrates the codes into the IWMDT architecture. These activities are unique to this effort across the Department of Defense (DoD). They directly support analysis capabilities in the Office of the Secretary of Defense (OSD) Studies and Analysis Group, and Cost Assessment and Program Evaluation (OSD CAPE), US Pacific Command and United States Forces Korea (USFK) offices, Republic of Korea (ROK) Ministry of Defense, Ministry of Defense Taiwan, as well as providing unique simulation capabilities to the Air Force Distributed Mission Operation Center. The Software Assurance, Certification and Accreditation functional area supports all aspects of DTRA software development and fielding. This sub-project extends research and development to system development and demonstration.

The increase from FY 2013 to FY 2014 is due to increased investment for fielding of IWMDT.

B. Accomplishments/Planned Programs (\$ in Millions)	FY 2012	FY 2013	FY 2014
Title: RL: Nuclear & Radiological Effects	5.750	5.749	5.995
<b>Description:</b> Project RL-Nuclear & Radiological Effects develops and provides a real-time globally accessible net-centric framework which migrates the Defense Threat Reduction Agency (DTRA) chemical, biological, radiological, nuclear, and			

<sup>##</sup> The FY 2014 OCO Request will be submitted at a later date

Exhibit R-2A, RDT&E Project Justification: PB 2014 Defense Threat Reduction Agency APPROPRIATION/BUDGET ACTIVITY 4000: Research, Development, Test & Evaluation, Defense-Wide BA 5: System Development & Demonstration (SDD)  B. Accomplishments/Planned Programs (\$ in Millions) high explosive (CBRNE) modeling and simulation codes to provide an integrated suite of Combating WMD decision support capabilities.  FY 2012 FY 2013 F Hy 2012 FY 2013 F FY 2012 Accomplishments: - Developed and provided a CBRNE web service from IWMDT for integration within the STRATCOM MPAS (Mission Planning and Assessment System) for real-time consequence of execution analysis Completed development and integration of enhanced capabilities across all five IWMDT major capability areas: 1) Enhanced Consequence Assessment with Hazard Prediction and Assessment (Explainity, 1947) and Nuclear Effects satellitie assessment model; 4) Transitioned IWMDT-SIM from a standalone code base to a fully integrated capability, and 5) Integrated the Joint Collaborative Analysis Model (JCAM) (net-centric interface to ITEM model) with codes for HPAC, Nuclear Weapons Effects Database System (IWED) and Probability of Damage Calculator (PDCALC) within IWMDT.  - Leverage the 4th Quarter FY 2011 and FY 2012 successes across USSTRATCOM, the UK and SHAPE, enabling IWMDT to become the primary CBRNE assessment capability within the DTRA Reachback and enabling it to become the single integrated assessment capability within the DTRA Reachback and enabling it to become the single integrated assessment capability within the DTRA Reachback and enabling it to become the single integrated assessment capability within the DTRA Reachback and enabling it to become the single integrated seasessment capability within the DTRA Reachback and enabling it to become the single integrated to be become the primary CBRNE assessment capability within the DTRA Reachback and enabling it to become the single integrated assessment capability within the DTRA Reachback and enabling it to become t					UNCLAS							
December 1. December 1. Test & Evaluation, Defense-Wide B. 5. System Development & Demonstration (SDD)  B. Accomplishments/Planned Programs (\$ In Millions)  FY 2012 Accomplishments:  - Developed and provided a CBRNE web service from IWMDT for integration within the STRATCOM MPAS (Mission Planning and Assessment System) for real-time consequence of execution analysis.  - Completed development and integration of enhanced capabilities across all five IWMDT major capability areas: 1) Enhanced Consequence Assessment with Hazard Prediction and Assessment Capability (HPAC) SP1 MB; 2) Conducted Target Support Integrated dufficed Sassessment (IMEA) 2012; 3) Introduced a new Nuclear Effects satellite assessment model; 4)  Transitioned IWMDT-SIM from a standalone code base to a fully integrated capability; and 5) Integrated the Joint Collaborative Analysis Model (JCAM) (net-centric interface to ITEM model) with codes for HPAC, Nuclear Weapons Effects Database System (NWEDS) and Probability of Damage Calculator (PDCALC) within IWMDT.  FY 2013 Plans:  - Leverage the 4th Quarter FY 2011 and FY 2012 successes across USSTRATCOM, the UK and SHAPE, enabling IWMDT to become the primary CBRNE assessment capability within the DTRA Reachback and enabling it to become the single integrated assessment capability within the DTRA Reachback and enabling it to become the single integrated assessment capability within the DTRA Reachback and enabling WMD Agency (USANCA).  FY 2014 Plans:  - Install IWMDT version 3.4 to U.S. Strategic Command, United Kingdom, Supreme Headquarters Allied Powers Europe (SHAPE),  - SD, U.S. Army Nuclear and Combating WMD Agency (USANCA), and DTRA Reachback.  - Proad deployment of IWMDT version 3.5.  - Accomplishments/Planned Programs Subtotals  - S, 750  - C. Other Program Funding Summary (\$ in Millions)  - Complete IWMDT version 3.5.  - Cost To Line Item	Exhibit R-2A, RDT&E Project Jus	tification: PB	2014 Defen	se Threat Re	eduction Age	ency				DATE:	April 2013	
high explosive (CBRNE) modeling and simulation codes to provide an integrated suite of Combating WMD decision support capabilities.  Poweloped and provided a CBRNE web service from IWMDT for integration within the STRATCOM MPAS (Mission Planning and Assessment System) for real-time consequence of execution analysis.  - Integrated advanced capabilities within the Net-Centric Architecture with the Global Strike Mission.  - Completed development and integration of enhanced capabilities across all five IWMDT major capability areas: 1) Enhanced Consequence Assessment with Hazard Prediction and Assessment Capability (HPAC) SP1 MB; 2) Conducted Target Support Integrated Minitions Effects Assessment (IMEA) 2012; 3) Introduced a new Nuclear Effects satellite assessment model; 4) Transitioned IWMDT-SIM from a standalone code base to a fully integrated capability; and 5) Integrated the Joint Collaborative Analysis Model (JCAM) (net-centric interface to ITEM model) with codes for HPAC, Nuclear Weapons Effects Database System (NWEDS) and Probability of Damage Calculator (PDCALC) within IWMDT.  FY 2013 Plans:  - Leverage the 4th Quarter FY 2011 and FY 2012 successes across USSTRATCOM, the UK and SHAPE, enabling IWMDT to become the primary CBRNE assessment capability within the DTRA Reachback and enabling it to become the single integrated assessment CBRNE capability across DTRA, STRATCOM, UK and U.S. Army Nuclear and Combating WMD Agency (USANCA).  FY 2014 Plans:  - Install IWMDT version 3.4 (server based) at USFK for collaboration between US forces and the ROK forces.  - Field IWMDT version 3.4 to U.S. Strategic Command, United Kingdom, Supreme Headquarters Allied Powers Europe (SHAPE),  OSD, U.S. Army Nuclear and Combating WMD Agency (USANCA), and DTRA Reachback.  - Broad deployment of IWMDT version 3.4 to Department of Homeland Security.  - Complete IWMDT version 3.5.  Accomplishments/Planned Programs Subtotals  5.750 5.749  Cost To  Line Item FY 2012 FY 2013 Base OCO Total FY 2015 FY 2016 FY 2017 FY 2018 Complete IT 25/0	0400: Research, Development, Tes	t & Evaluation,		/ide	1	_	_	Capabilities			iological Effe	cts
FY 2012 Accomplishments:  - Developed and provided a CBRNE web service from IWMDT for integration within the STRATCOM MPAS (Mission Planning and Assessment System) for real-time consequence of execution analysis.  - Integrated advanced capabilities within the Net-Centric Architecture with the Global Strike Mission.  - Completed development and integration of enhanced capabilities across all five IWMDT major capability areas: 1) Enhanced Consequence Assessment with Hazard Prediction and Assessment Capability (HPAC) SPI MB; 2) Conducted Target Support Integrated Munitions Effects Assessment (IMEA) 2012; 3) Introduced a new Nuclear Effects satellite assessment model; 4)  Transitioned IWMDT-SIM from a standalone code base to a fully integrated capability; and 5) Integrated the Joint Collaborative Analysis Model (JCAM) (net-centric interface to ITEM model) with codes for HPAC, Nuclear Weapons Effects Database System (IWEDS) and Probability of Damage Calculator (PDCALC) within IWMDT.  FY 2013 Plans:  - Leverage the 4th Quarter FY 2011 and FY 2012 successes across USSTRATCOM, the UK and SHAPE, enabling IWMDT to become the primary CBRNE assessment capability within the DTRA Reachback and enabling it to become the single integrated assessment CBRNE capability across DTRA, STRATCOM, UK and U.S. Army Nuclear and Combating WMD Agency (USANCA).  FY 2014 Plans:  - Install IWMDT version 3.4 (server based) at USFK for collaboration between US forces and the ROK forces.  - Field IWMDT version 3.4 to U.S. Strategic Command, United Kingdom, Supreme Headquarters Allied Powers Europe (SHAPE), OSD, U.S. Army Nuclear and Combating WMD Agency (USANCA), and DTRA Reachback.  - Broad deployment of IWMDT version 3.4 to Department of Homeland Security.  - Complete IWMDT version 3.5.  - Accomplishments/Planned Programs Subtotals	B. Accomplishments/Planned Pro	ograms (\$ in I	<u>Millions)</u>							FY 2012	FY 2013	FY 2014
- Developed and provided a CBRNE web service from IWMDT for integration within the STRATCOM MPAS (Mission Planning and Assessment System) for real-time consequence of execution analysis.  - Integrated advanced capabilities within the Net-Centric Architecture with the Global Strike Mission.  - Completed development and integration of enhanced capabilities across all five IWMDT major capability areas: 1) Enhanced Consequence Assessment with Hazard Prediction and Assessment Capability (HPAC) SP1 MB; 2) Conducted Target Support Integrated Munitions Effects Assessment (IMEA) 2012; 3) Introduced a new Nuclear Effects satellite assessment model; 4)  Transitioned IWMDT-SIM from a standalone code base to a fully integrated capability; and 5) Integrated the Joint Collaborative Analysis Model (JCAM) (net-centric interface to ITEM model) with codes for HPAC, Nuclear Weapons Effects Database System (NWEDS) and Probability of Damage Calculator (PDCALC) within IWMDT.  FY 2013 Plans:  - Leverage the 4th Quarter FY 2011 and FY 2012 successes across USSTRATCOM, the UK and SHAPE, enabling IWMDT to become the primary CBRNE assessment capability within the DTRA Reachback and enabling it to become the single integrated assessment CBRNE capability across DTRA, STRATCOM, UK and U.S. Army Nuclear and Combating WMD Agency (USANCA).  FY 2014 Plans:  - Install IWMDT version 3.4 (server based) at USFK for collaboration between US forces and the ROK forces.  - Field IWMDT version 3.4 to U.S. Strategic Command, United Kingdom, Supreme Headquarters Allied Powers Europe (SHAPE), OSD, U.S. Army Nuclear and Combating WMD Agency (USANCA), and DTRA Reachback.  - Broad deployment of IWMDT version 3.4 to Department of Homeland Security.  - Complete IWMDT version 3.5.  - Accomplishments/Planned Programs Subtotals  - 5.750  - 5.749  C. Other Program Funding Summary (\$ in Millions)  - FY 2014 FY 2014 FY 2014 FY 2015 FY 2016 FY 2017 FY 2018 Complete IV 25/0602718BR: WMD Defeat  - 25.0602718BR: WMD Defeat  - 25.0602718BR: WMD Defeat  - 25.0602718BR: WMD	• • • • • •	and simulation	codes to pr	ovide an inte	grated suite	of Combati	ng WMD dec	cision suppor	rt			
- Leverage the 4th Quarter FY 2011 and FY 2012 successes across USSTRATCOM, the UK and SHAPE, enabling IWMDT to become the primary CBRNE assessment capability within the DTRA Reachback and enabling it to become the single integrated assessment CBRNE capability across DTRA, STRATCOM, UK and U.S. Army Nuclear and Combating WMD Agency (USANCA).  FY 2014 Plans: - Install IWMDT version 3.4 (server based) at USFK for collaboration between US forces and the ROK forces Field IWMDT version 3.4 to U.S. Strategic Command, United Kingdom, Supreme Headquarters Allied Powers Europe (SHAPE), OSD, U.S. Army Nuclear and Combating WMD Agency (USANCA), and DTRA Reachback Broad deployment of IWMDT version 3.4 to Department of Homeland Security Complete IWMDT version 3.5.  Accomplishments/Planned Programs Subtotals  5.750  5.749  C. Other Program Funding Summary (\$ in Millions)  FY 2014 FY 2014 FY 2014 FY 2014 FY 2015 FY 2016 FY 2017 FY 2018 Complete Technologies	- Developed and provided a CBRN and Assessment System) for real-ti Integrated advanced capabilities volume - Completed development and integrated Munitions Effects Assest Transitioned IWMDT-SIM from a st Analysis Model (JCAM) (net-centrical (NWEDS) and Probability of Damage	ime consequer within the Net-Ogration of enhance and Prediction sment (IMEA) and alone code interface to IT	nce of execu Centric Arch anced capab n and Asses 2012; 3) Intr e base to a f FEM model)	ition analysis itecture with ilities across sment Capa oduced a ne ully integrate with codes fo	the Global S all five IWM bility (HPAC w Nuclear E d capability; or HPAC, No	Strike Missio IDT major ca ) SP1 MB; 2 Effects satell and 5) Integ	n. pability area ) Conducted te assessme grated the Jo	is: 1) Enhan Target Sup ent model; 4 int Collabora	ced port ) ative			
- Install IWMDT version 3.4 (server based) at USFK for collaboration between US forces and the ROK forces.  - Field IWMDT version 3.4 to U.S. Strategic Command, United Kingdom, Supreme Headquarters Allied Powers Europe (SHAPE), OSD, U.S. Army Nuclear and Combating WMD Agency (USANCA), and DTRA Reachback.  - Broad deployment of IWMDT version 3.4 to Department of Homeland Security.  - Complete IWMDT version 3.5.  Accomplishments/Planned Programs Subtotals  5.750  5.749  C. Other Program Funding Summary (\$ in Millions)  FY 2014  FY 2014  FY 2014  FY 2014  FY 2014  - 25/0602718BR: WMD Defeat  25.343  25.752  35.741  35.741  37.284  37.888  38.297  38.824  Continuing C. Technologies	<ul> <li>Leverage the 4th Quarter FY 201 become the primary CBRNE asses</li> </ul>	sment capabili	ity within the	DTRA Read	chback and	enabling it to	become the	single integ	rated			
C. Other Program Funding Summary (\$ in Millions)  FY 2014 FY 2014 FY 2014  Line Item FY 2012 FY 2013 Base OCO Total FY 2015 FY 2016 FY 2017 FY 2018 Complete TOTAL FY 2018	<ul> <li>Install IWMDT version 3.4 (server</li> <li>Field IWMDT version 3.4 to U.S. SOSD, U.S. Army Nuclear and Comb</li> <li>Broad deployment of IWMDT versions</li> </ul>	Strategic Comr bating WMD A	mand, Unite gency (USA	d Kingdom, S NCA), and D	Supreme He OTRA Reach ecurity.	adquarters <i>i</i> back.	Allied Powers		·			
Line Item         FY 2012         FY 2013         Base 35.741         OCO 35.741         Total 37.284         FY 2016 37.888         FY 2017 38.824         Cost To 57.060 2718BR: WMD Defeat 76.060         Total 37.284         FY 2016 37.888         FY 2017 38.824         Complete 76.060 2718BR: WMD Defeat 76.060         Total 37.284         37.888         38.297         38.824         Continuing Continui					Accor	nplishment	s/Planned P	rograms Su	ubtotals	5.750	5.749	5.99
<u>Line Item</u> <u>FY 2012 FY 2013 Base</u> <u>OCO Total FY 2015 FY 2016 FY 2017 FY 2018 Complete Total States of the property of the pro</u>	C. Other Program Funding Summ	nary (\$ in Milli	ons)									
• 25/0602718BR: <i>WMD Defeat</i> 25.343 25.752 35.741 35.741 37.284 37.888 38.297 38.824 Continuing C <i>Technologies</i>	l ing Itom	EV 2012	EV 2012				EV 201 <i>E</i>	EV 2016	EV 204	7 EV 204		_
·	• 25/0602718BR: <i>WMD Defeat</i>				<u>000</u>							-
	<u> </u>											

Exhibit R-2A, RDT&E Project Justification: PB 2014 Defense Threat Reduction	on Agency	DATE: April 2013
APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE	PROJECT
0400: Research, Development, Test & Evaluation, Defense-Wide	PE 0605000BR: WMD Defeat Capabilities	RL: Nuclear & Radiological Effects
BA 5: System Development & Demonstration (SDD)		

# **D. Acquisition Strategy**

The program for IWMDT is executed through a competed Cost Plus Fixed-Fee contract. This contract is a 3-year effort for software development, test, and integration. Follow-on contracts will be competed for award to continue any out-year activities.

#### **E. Performance Metrics**

Demonstrate and provide over 80% of the customer-required CBRNE modeling and simulation capabilities over networks, e.g. Department of Defense Global Information Grid.

Integrate mission-required legacy Defense Threat Reduction Agency CBRNE codes into a net-centric architecture through a process-controlled Verification, Validation, and Accreditation standards-based method necessary to promote the National Strategy for Countering Biological Threats.

Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Defense Threat Reduction Agency

APPROPRIATION/BUDGET ACTIVITY R-1 ITEM

0400: Research, Development, Test & Evaluation, Defense-Wide

BA 5: System Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0605000BR: WMD Defeat Capabilities

**PROJECT** 

RL: Nuclear & Radiological Effects

DATE: April 2013

Product Developme	nt (\$ in Mi	llions)		FY 2	2012	FY 2	2013		2014 ase	FY 2		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
System Development - IWMDT	C/CPAF	SAIC:San Diego, CA	17.109	3.100	Jan 2012	-		2.000	May 2014	-		2.000	14.510	36.719	36.719
System Development - NuCS	C/CPFF	Applied Research Associates:Raliegh, NC	4.930	0.000		0.000		-		-		-	0.000	4.930	4.930
System Development - COE	C/CPFF	Titan:Kingstowne, VA	5.533	0.000		0.000		-		-		-	0.000	5.533	5.533
System Development - Component Contracts	C/Various	Various:Various	5.073	0.000		0.000		-		-		-	0.000	5.073	5.073
	·	Subtotal	32.645	3.100		0.000		2.000		0.000		2.000	14.510	52.255	52.255

#### Remarks

The "Various" reported reflects multiple contracts, mainly CPFF.

Support (\$ in Millions	<b>s</b> )			FY 2	2012	FY 2	2013		2014 ase	FY 2		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Configuration Management	C/Various	SAIC:San Diego, CA	0.146	0.060	Jan 2012	0.095	Mar 2013	0.095	May 2012	-		0.095	1.353	1.749	1.749
Software Integration	C/Various	SAIC:San Diego, CA	3.100	0.200	Jan 2012	2.510	Mar 2013	1.510	May 2014	-		1.510	1.100	8.420	8.420
Technical Data	C/Various	SAIC:San Diego, CA	0.050	0.435	Jan 2012	0.050	Mar 2013	0.050	May 2014	-		0.050	0.938	1.523	1.661
Engineering Services	C/Various	SAIC:San Diego, CA	1.464	0.503	Jan 2012	0.908	Mar 2013	0.808	May 2014	-		0.808	0.786	4.469	4.469
Accreditation & Certification	C/Various	SAIC:San Diego, CA	0.146	0.420	Jan 2012	0.509	Mar 2013	0.560	May 2014	-		0.560	0.983	2.618	2.618
		Subtotal	4.906	1.618		4.072		3.023		0.000		3.023	5.160	18.779	18.917

PE 0605000BR: WMD Defeat Capabilities Defense Threat Reduction Agency

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2014 Defense Threat Reduction Agency

APPROPRIATION/BUDGET ACTIVITY

0400: Research, Development, Test & Evaluation, Defense-Wide

BA 5: System Development & Demonstration (SDD)

**R-1 ITEM NOMENCLATURE** 

PE 0605000BR: WMD Defeat Capabilities

PROJECT

RL: Nuclear & Radiological Effects

DATE: April 2013

Test and Evaluation	(\$ in Milli	ons)		FY 2	2012	FY 2	2013		2014 ise	FY 2		FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To	Total Cost	Target Value of Contract
Developmental Test & Evaluation	C/Various	SAIC:San Diego, CA	1.555	0.350	Jan 2012	0.505	Mar 2013	0.574	May 2014	-		0.574	1.300	4.284	4.284
Operational Test & Evaluation	C/Various	SAIC:San Diego, CA	1.555	0.070	Jan 2012	0.398	Mar 2013	0.398	May 2014	-		0.398	0.925	3.346	3.346
		Subtotal	3.110	0.420		0.903		0.972		0.000		0.972	2.225	7.630	7.630

Management Service	es (\$ in M	illions)		FY 2	2012	FY:	2013	FY 2 Ba	2014 ise	FY 2	2014 CO	FY 2014 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	All Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management	C/Various	SAIC:San Diego, CA	2.296	0.132	Jan 2012	0.234	Mar 2013	-		-		-	2.100	4.762	4.762
Travel	C/Various	SAIC:San Diego, CA	1.070	0.240	Jan 2012	0.270	Mar 2013	-		-		-	1.300	2.880	2.880
Overhead	C/Various	SAIC:San Diego, CA	2.293	0.240	Jan 2012	0.270	Mar 2013	-		-		-	1.600	4.403	4.403
		Subtotal	5.659	0.612		0.774		0.000		0.000		0.000	5.000	12.045	12.045

													Target
	All Prior					FY 2	014	FY 2	2014	FY 2014	Cost To	Total	Value of
	Years	FY 2	2012	FY 2	2013	Ва	se	00	co	Total	Complete	Cost	Contract
Project Cost Totals	46.320	5.750		5.749		5.995		0.000		5.995	26.895	90.709	90.847

#### Remarks

Remarks: All "PY Costs" costs and activities for Integrated Weapons of Mass Destruction Toolset (IWMDT), Nuclear Capability Server (NuCS), and Consequence of Execution (COE) were assigned under Project BD of PE 0602716BR. IWMDT was funded in 2004 by a competitive Cost plus award fee (CPAF) contract for \$12.425M over a 3-year period. At end of FY 2006, its follow-on contract was awarded with an initial \$.300M increment. IWMDT program efforts have continued into FY 2013 with \$35.26M now applied. Likewise, the NuCS program was funded under a competitive Cost plus fixed fee (CPFF) contract over a 3-year period with funding of \$5.913M applied through FY 2008; a follow-on contract has now been awarded with initial funding to date of \$2.356M to continue program efforts, this effort is not funded past FY11 under this line. COE was funded under a competitive CPFF contract with increments to date of \$6.566M total. NUCS and COE will no longer be funded under this line. Task Order 00055 (IWMDT) Option 1 of the base contract was issued Nov 2012 for an 18 month period of performance. In May 2014 the current task order will be completed and all follow-on work will be performed under the new IDIQ contract as a new task order.

PE 0605000BR: WMD Defeat Capabilities
Defense Threat Reduction Agency

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Exhibit R-4, RDT&E Schedule Profile: PB 2014 Defense Threat Reduction Agency

DATE: April 2013

APPROPRIATION/BUDGET ACTIVITY

BA 5: System Development & Demonstration (SDD)

0400: Research, Development, Test & Evaluation, Defense-Wide

PE 0605000BR: WMD Defeat Capabilities

R-1 ITEM NOMENCLATURE

**PROJECT** 

RL: Nuclear & Radiological Effects

		FY 2012				FY	201	3		FY 2	2014	1		FY	201	5		FY	2010	6		FY	2017	7		FY	201	8
	1	2	3	4	1	2	2 3	4	1	2	3	4	•	1 2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
IWMDT - System Development, Test, and Integration - Phase 3/4							·							·		·	·		·									
IWMDT - System Development, Test and Integration - Phase 5/6																												

Exhibit R-4A, RDT&E Schedule Details: PB 2014 Defense Threat Reduction Agency

APPROPRIATION/BUDGET ACTIVITY R-1 IT

0400: Research, Development, Test & Evaluation, Defense-Wide

BA 5: System Development & Demonstration (SDD)

R-1 ITEM NOMENCLATURE

PE 0605000BR: WMD Defeat Capabilities

**PROJECT** 

RL: Nuclear & Radiological Effects

DATE: April 2013

# Schedule Details

	St	art	E	nd
Events	Quarter	Year	Quarter	Year
IWMDT - System Development, Test, and Integration - Phase 3/4	3	2012	3	2014
IWMDT - System Development, Test and Integration - Phase 5/6	3	2014	2	2017