

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification		Date: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/System Development and Demonstration – BA5		R-1 ITEM NOMENCLATURE: WMD Defeat Capabilities; 0605000BR

Cost (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total 0605000BR Cost	0.000	0.000	15.394	15.946	15.767	13.859	12.828	11.204
RL - Nuclear & Radiological Effects	0.000	0.000	15.394	15.946	15.767	13.859	12.828	11.204

A. Mission Description and Budget Item Justification:

This project extends nuclear and radiological modeling and simulation development to system development and demonstration by developing nuclear and radiological assessment modeling tools and WMD integrated architecture to support military operational planning, weapon effects predictions, and strategic system design decisions; consolidate validated DTRA modeling tools into net-centric environment for integrated functionality capable of predicting system responses to nuclear and radiological weapons producing electromagnetic, thermal, blast, shock and radiation environments in addition to chemical, biological, and conventional weapons. Key systems/environments include space assets, missiles, structures, networks, urban areas, and humans.

B. Program Change Summary:

(\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget	0.000	0.000	0.000	0.000
Current President's Budget	0.000	0.000	15.394	15.946
Total Adjustment	0.000	0.000	15.394	15.946
Congressional program reductions				
Congressional reductions				
Congressional increases				
Reprogramming				
SBIR/STTR Transfer				
Other program adjustments			15.394	15.946

UNCLASSIFIED

Exhibit R-2, RDT&E Budget Item Justification		Date: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/System Development and Demonstration – BA5	R-1 ITEM NOMENCLATURE: WMD Defeat Capabilities; 0605000BR	

Change Summary Explanation:

- This effort is funded by shifting funding from Project BD of PE 0602716BR to this program element in FY 2008 to support system development and demonstration by developing advanced nuclear and radiological assessment modeling tools with WMD integrated architecture.

C. Other Program Funding Summary: For FY 2007 and previous years, the projects within this Program Element were funded under Project BD - Weapons Effects Technologies, Program Element 0602716BR, budget activity 2 (Applied Research). There are no other projects with concurrent development or funding dependencies to report.

D. Acquisition Strategy: The programs for Integrated Weapons of Mass Destruction Toolset (IWMDT), Nuclear Capability Services (NuCS), and Consequence of Execution (CoE) are executed through competed, CPAF and CPFF contracts. These contracts are normally 3-year efforts for software development, test, and integration. Follow-on contracts will be competed for award to continue any out-year activities. For FY 2006, FY 2007, and previous year efforts, these programs were managed under Activity 2 (Applied Research) under Program Element 0602716BR. Beginning in FY 2008, these activities continue with their transition into PE 0605000BR under Activity 5 (System Development and Demonstration).

E. Performance Metrics: Program cost, schedule and performance are measured using a systematic approach with approved programs and methods. The results of these measurements are presented to DTRA management on a regular basis to determine program effectiveness and to provide new direction as needed to ensure the efficient use of resources. Program specific performance metrics are outlined within each project description.

UNCLASSIFIED

Exhibit R-2a, RDT&E Project Justification		Date: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/System Development and Demonstration – BA5		PROJECT NAME AND NUMBER: 0605000BR Project RL- Nuclear and Radiological Effects

Cost (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
RL - Nuclear & Radiological Effects	0.000	0.000	15.394	15.946	15.767	13.859	12.828	11.204

*Funding and activities realigned from Project BD of PE 0602716BR in FY 2008.

A. Mission Description and Budget Item Justification:

Advanced Modeling Systems includes three functional areas 1) Nuclear Capability Services (NuCS), 2) Integrated Weapons of Mass Destruction Toolset (IWMDT), and 3) Consequence of Execution-Nuclear Integration (CoE-NI). NuCS develops the capabilities for the US and its allies for state-of-the-art, secure, accredited, nuclear & radiological Modeling & Simulation (M&S) capabilities. IWMDT develops the architecture, defines and implements the standards to consolidate validated DTRA tools enabling rapid access for planning, emergency response and assessment capabilities used by a wide range of planners, managers and operational and technical personnel facing the full spectrum of CBRNE threats. IWMDT incorporates the capabilities developed across the DTRA R&D Enterprise, external R&D and required operational capabilities, and provides integrated functionality in the conventional, nuclear and unconventional areas. Consequence Assessment (CA) provides the integration of DTRA's hazard prediction and consequence assessment models. It provides Consequence of Execution (CoE) modeling capability to US Strategic Command (STRATCOM) as well as CA integration and testing for transition to the Joint Effects Model (JEM), Chemical-Biological Defense Program for hazard prediction. It also provides the capability for theater-level land, sea, and air battle simulation, incorporating WMD, for Joint Staff, US Pacific Command (PACOM), and US Northern Command (NORTHCOM). This sub-project extends research and development to system development and demonstration.

B. Accomplishments/Planned Program:

Cost (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
RL - Nuclear & Radiological Effects	0.000	0.000	15.394	15.946

Performance Metrics:

- Demonstrate and provide over 80% of the customer-required Nuclear Weapons Effects (NWE) modeling and simulation capabilities over networks, e.g. DoD Global Information Grid (GIG).
- Transform 100% of the mission-required legacy DTRA NWE codes to meet Verification, Validation, and Accreditation (VV&A) standards.

UNCLASSIFIED

Exhibit R-2a, RDT&E Project Justification		Date: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/System Development and Demonstration – BA5	PROJECT NAME AND NUMBER: 0605000BR Project RL- Nuclear and Radiological Effects	

FY 2006 Accomplishments:

- Not Applicable. See Project BD in PE 0602716BR.

FY 2007 Plans:

- Not Applicable. See Project BD in PE 0602716BR.

FY 2008 Plans:

- Complete Nuclear Capability Services (NuCS) Integration Spiral 2 by demonstrating and providing over 80% of the customer-required nuclear weapon effects modeling and simulation capabilities in a net-centric environment. This includes transforming at least 25% of the mission required legacy (pre-2005) DTRA codes to meet Verification, Validation, and Accreditation (VV&A) standards.
- Provide net-centric Chemical, Biological, Nuclear and Radiological (CBRN) capabilities enabling rapid integration of these capabilities into the Joint Effect Model (JEM) Block II architecture through technology transfer initiatives.
- Provide a one-point entry portal providing common CBRN capabilities distributed to the edge. At the edge the user is provided a rapidly adaptable operational assessment based on validated codes, subject matter expert support and cutting edge technology capable of real-time assessments.
- Update the foreign nuclear weapon output reference, Redbook Volume 1, to include Strategic Systems.

FY 2009 Plans:

- Complete Nuclear Weapon Effects Users Group (NWEUG) accreditation of modeling and simulation in the NuCS.
- Provide fully distributed, transportable and mobile CBRN capability solution meeting the CBRN requirements of forward deployed military, first responders, analyst, and future planning users. Through this capability, users can fully customize the CBRN portal to meet their decision support, analysis, and collaborative mission planning through a single view.
- Update the foreign nuclear weapon output reference, Redbook Volume 3, to include proliferant systems.

C. Other Program Funding Summary: For FY 2007 and previous years, the projects within this Program Element were funded under Project BD - Weapons Effects Technologies, Program Element 0602716BR, budget activity 2 (Applied Research). There are no other projects with concurrent development or funding dependencies to report.

UNCLASSIFIED

Exhibit R-2a, RDT&E Project Justification		Date: February 2007
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/System Development and Demonstration – BA5	PROJECT NAME AND NUMBER: 0605000BR Project RL- Nuclear and Radiological Effects	

D. Acquisition Strategy: The programs for Integrated Weapons of Mass Destruction Toolset (IWMDT), Nuclear Capability Services (NuCS), and Consequence of Execution (CoE) are executed through competed, CPAF and CPFF contracts. These contracts are normally 3-year efforts for software development, test, and integration. Follow-on contracts will be competed for award to continue any out-year activities. For FY 2006, FY 2007, and previous year efforts, these programs were managed under Activity 2 (Applied Research) under Program Element 0602716BR. Beginning in FY 2008, these activities continue with their transition into PE 0605000BR under Activity 5 (System Development and Demonstration).

E. Major Performers: Not Applicable.