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Exhibit R-2, RDT&E Budget Item Justification		Date: February 2008
APPROPRIATION/BUDGET ACTIVITY RDT&E, Defense-Wide/System Development and Demonstration – BA5		R-1 ITEM NOMENCLATURE: WMD Defeat Capabilities; 0605000BR

Cost (\$ in Millions)	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Total 0605000BR Cost	0.000	15.296	15.946	15.767	13.859	12.828	11.204
RL - Nuclear & Radiological Effects	0.000	15.296	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 2007	FY 2008	FY 2009
Previous President's Budget	0.000	15.394	15.946
Current President's Budget	0.000	15.296	15.946
Total Adjustments	0.000	-0.098	0.000
Congressional program reductions		-0.098	
Congressional rescissions			
Congressional increases			
Reprogrammings			
SBIR/STTR Transfer			

Change Summary Explanation: Not Applicable.

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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 (PE) 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, Nuclear Capability Services, and Consequence of Execution are executed through competed, Cost Plus Award-Fee and Cost Plus Fixed-Fee 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 PE 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.

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Exhibit R-2a, RDT&E Project Justification		Date: February 2008
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 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
RL - Nuclear & Radiological Effects	0.000	15.296	15.946	15.767	13.859	12.828	11.204

*Funding and activities realigned from Project BD of Program Element 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 (CoE)-Nuclear Integration. NuCS develops the capabilities for the U.S. 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 chemical, biological, radiological, nuclear, and high-yield explosives threats. IWMDT incorporates the capabilities developed across the DTRA Research and Development Enterprise, external research and development 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 CoE modeling capability to U.S. Strategic Command as well as CA integration and testing for transition to the Joint Effects Model, 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, U.S. Pacific Command, and U.S. Northern Command. This sub-project extends research and development to system development and demonstration.

B. Accomplishments/Planned Program:

Cost (\$ in Millions)	FY 2007	FY 2008	FY 2009
RL - Nuclear & Radiological Effects	0.000	15.296	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.
- Transform 100% of the mission-required legacy DTRA NWE codes to meet Verification, Validation, and Accreditation standards.

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FY 2007 Accomplishments:

- Not Applicable. See Project BD in Program Element (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 standards.
- In coordination with Chemical, Biological, Radiological, and Nuclear (CBRN) program, manage the development and transfer of basic science (6.1, 6.2 funded) initiatives to Program of Records through the use of a robust disciplined process Integrated Weapons of Mass Destruction Toolset (IWMDT) which provides transferable technology, process, and documentation.
- 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 accreditation of modeling and simulation in the NuCS.
- Provide fully distributed, transportable and mobile CBRN capability solution meeting the CBRN requirements of forward deployed warfighters, 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.
- Deliver NuCS Spiral 2 capabilities through the IWMDT framework meeting 80% of customer-required nuclear weapon effects Modeling & Simulation (M&S), enabling technology transfer to Program of Record and external systems as required.
- Initiate NuCS Spiral 3 development addressing the remaining 20% of customer-required nuclear weapon effect M&S capabilities.

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

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D. Acquisition Strategy: The programs for Integrated Weapons of Mass Destruction Toolset, Nuclear Capability Services, and Consequence of Execution are executed through competed, Cost Plus Award-Fee and Cost Plus Fixed-Fee 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 (PE) 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.