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<b>Exhibit R-2, RDT&amp;E Budget Item Justification</b>		Date: February 2007
<b>APPROPRIATION/BUDGET ACTIVITY</b>	<b>R-1 ITEM NOMENCLATURE:</b>	
RDT&E, Defense-Wide/Applied Research - BA2	WMD Defeat Technology; 0602716BR	

Cost (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
<b>Total 0602716BR Cost</b>	<b>203.795</b>	<b>218.946</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
Project BB - Small Business Innovative Research*	0.000	2.411	0.000	0.000	0.000	0.000	0.000	0.000
Project BD - Weapons Effects Technologies	78.743	81.452	0.000	0.000	0.000	0.000	0.000	0.000
Project BE - Testing Technologies & Integration	22.880	19.915	0.000	0.000	0.000	0.000	0.000	0.000
Project BF - CP Operational Warfighter Support	92.086	98.357	0.000	0.000	0.000	0.000	0.000	0.000
Project BG - Nuclear Operations	10.086	16.811	0.000	0.000	0.000	0.000	0.000	0.000

\*In year of execution, funding executed under PE 0605502BR "Small Business Innovative Research (SBIR)".

**A. Mission Description and Budget Item Justification:**

The mission of the DTRA is to safeguard America and its allies from WMD by reducing the present threat and preparing for the future threat. The approach to this challenge is contained within the three pillars of the DTRA mission\*\*: non-proliferation, counterproliferation and consequence management. This program element specifically funds technologies necessary to defeat the threat from WMD.

Project BD provides the research and development underpinning for the next generation of agent defeat, deny and disrupt counterforce weapons to meet WMD threat. This project seeks answers to these challenges by using state-of-the-art science and engineering capabilities, novel payload development and evaluation capability, and precision laboratory and field testing capabilities.

Project BE provides a unique national test bed capability for simulated WMD facility characterization, weapon-target interaction, and WMD facility defeat testing by developing and maintaining test beds used by the DoD, the Services, the Combatant Commanders and other federal agencies to evaluate the implications of WMD, conventional, and other special weapon use against military or civilian systems/targets.

Project BF provides the bridge between the WMD Defeat Technology base and operational and intelligence community needs. The overall project goal is to support the Joint Chiefs of Staff, the warfighting Combatant Commanders and Services/agencies engaged in countering WMD threats and to protect the U.S. and its allies against military or terrorist use of WMD.

Project BG provides initiatives to locate, detect, defeat, and investigate the use of WMD against the U.S. and its allies, thereby protecting our citizens and

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critical infrastructures. The objective is to dissuade potential adversaries, whether they are nation states, terrorist groups, or criminal organizations, from using asymmetric means of war as a counter to U.S. conventional weapon superiority.

\*\* Tasking for this mission is contained in the National Security Strategy, Unified Command Plan, National Strategy to Combat WMD, Counterproliferation Interdiction, National Strategy for Combating Terrorism, National Military Strategy, Strategic Planning Guidance, Contingency Planning Guidance, National Military Strategy for Combating WMD, National Military Strategic Plan for the War on Terrorism, Joint Strategic Capabilities Plan (including the Nuclear Annex), Security Cooperation Guidance, Quadrennial Defense Review, Nuclear Posture Review, and Defense Transformation Planning Guidance.

**B. Program Change Summary:**

(\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
<b>Previous President's Budget</b>	<b>205.370</b>	<b>213.152</b>	<b>216.594</b>	<b>221.359</b>
<b>Current President's Budget</b>	<b>203.795</b>	<b>218.946</b>	<b>0.000</b>	<b>0.000</b>
<b>Total Adjustment</b>	<b>-1.575</b>	<b>5.794</b>	<b>-216.594</b>	<b>-221.359</b>
<b>Congressional program reductions</b>				
<b>Congressional reductions</b>		<b>-0.956</b>		
<b>Congressional increases</b>		<b>6.750</b>		
<b>Reprogramming</b>	<b>1.500</b>			
<b>Classified Program Transfer</b>				
<b>Other Program Adjustments</b>			<b>-216.594</b>	<b>-221.359</b>
<b>SBIR/STTR Transfer</b>	<b>-3.075</b>			

**Change Summary Explanation:**

- In FY 2008, the Program Element (PE) structure will change to improve organizational coordination and priorities. As part of this reorganization, the efforts under PE 0602716BR move to a new PE 0602718BR, titled WMD Defeat Technologies. The existing PE-WMD Defeat Technology

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workload and the associated funding for Projects BB, BD, BE, BF and BG are realigned into PE 0602718BR and its new set of Projects: RA - Systems Engineering and Innovation, RF - Detection Technology, RG - Advanced Energetics & Counter WMD Weapons, RI - Nuclear Survivability, RL - Nuclear & Radiological Effects, RM - WMD Battle Management, RR - Test Infrastructure, RT - Target Assessment Technologies, RU – Basic Research for WMD Knowledge Gaps.

- Additional funding transfers reflect the maturing of WMD technologies and result in the transition of program efforts to system development or operations. Funding transfers to other Program Elements included as part of this reorganization are:
  - FY 2008: \$15.394M to PE 0605000BR; \$23.471M to PE 0603160BR; \$21.860M to PE 0303150BR and PE 0302199BR.
  - FY 2009: \$15.964M to PE 0605000BR; \$26.193M to PE 0603160BR; \$11.005M to PE 0303150BR and PE 0302199BR
  
- The tables below identify funding realignments by Project from PE 0602716BR to PE 0602718BR, PE 0603160BR and PE 0605000BR in both FY 2008 and FY 2009.

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<b>FY 2008 Cost (\$ in Millions)</b>													
<b>PE 0602716BR</b>		<b>PE 0602718BR</b>								<b>Transfer to other PEs</b>			Total
Project	Cost	RA	RF	RG	RI	RL	RM	RR	RU	0603160BR	0605000BR	Other*	
BB	2.390	2.390	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	<b>2.390</b>
BD	76.647	3.900	0.000	2.427	3.435	34.580	1.750	0.000	15.161	0.000	15.394	0.000	<b>76.647</b>
BE	20.200	0.297	0.000	0.000	0.000	0.000	0.000	19.903	0.000	0.000	0.000	0.000	<b>20.200</b>
BF	99.685	7.547	16.718	25.472	0.000	0.000	24.408	0.000	0.000	14.833	0.000	10.707	<b>99.685</b>
BG	17.672	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	8.638	0.000	9.034	<b>17.672</b>
<b>Total</b>	<b>216.594</b>	<b>14.134</b>	<b>16.718</b>	<b>27.899</b>	<b>3.435</b>	<b>34.580</b>	<b>26.158</b>	<b>19.903</b>	<b>15.161</b>	<b>23.471</b>	<b>15.394</b>	<b>19.741</b>	<b>216.594</b>

\* PE 0302199BR &amp; PE 0303150BR

<b>FY 2009 Cost (\$ in Millions)</b>													
<b>PE 0602716BR</b>		<b>PE 0602718BR</b>								<b>Transfer to other PEs</b>			Total
Project	Cost	RA	RF	RG	RI	RL	RM	RR	RU	0603160BR	0605000BR	Other*	
BB	2.424	2.424	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	<b>2.424</b>
BD	77.916	2.125	0.000	2.450	0.630	36.650	1.803	0.000	18.312	0.000	15.946	0.000	<b>77.916</b>
BE	20.143	0.157	0.000	0.000	0.000	0.000	0.000	19.986	0.000	0.000	0.000	0.000	<b>20.143</b>
BF	103.160	10.964	16.808	28.298	0.000	0.000	27.608	0.000	0.000	19.482	0.000	0.000	<b>103.160</b>
BG	17.716	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	6.711	0.000	11.005	<b>17.716</b>
<b>Total</b>	<b>221.359</b>	<b>15.670</b>	<b>16.808</b>	<b>30.748</b>	<b>0.630</b>	<b>36.650</b>	<b>29.411</b>	<b>19.986</b>	<b>18.312</b>	<b>26.193</b>	<b>15.946</b>	<b>11.005</b>	<b>221.359</b>

\* PE 0302199BR &amp; PE 0303150BR

C. Other Program Funding Summary: See Exhibit R-2a.

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**D. Acquisition Strategy:** Not Applicable.

**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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<b>Exhibit R-2a, RDT&amp;E Budget Item Justification</b>		Date: February 2007
<b>APPROPRIATION/BUDGET ACTIVITY</b> RDT&E, Defense-Wide/Applied Research - BA2		<b>PROJECT NAME AND NUMBER:</b> 0602716BR Project BB – Small Business Innovative Research

Cost (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project BB - Small Business Innovative Research*	0.000	2.411	0.000	0.000	0.000	0.000	0.000	0.000

\*In year of execution, funding executed under PE 0605502BR "Small Business Innovative Research (SBIR)".

**A. Mission Description and Budget Item Justification:**

This project provides the means for stimulating technological innovation in the private sector, strengthens the role of small business in meeting DoD R&D needs, fosters and encourages participation of minority and disadvantaged businesses in technological innovation, and increases the commercial application of DoD supported R&D results. These efforts are responsive to Public Law 106-554.

**B. Accomplishments/Planned Program:**

Cost (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Project BB - Small Business Innovative Research*	0.000	2.411	0.000	0.000

\*In year of execution, funding executed under PE 0605502BR "Small Business Innovative Research (SBIR)".

**Performance Metrics:**

- Number of phase I awards supporting innovative technology development.
- Number of phase II and III awards leading to technology transition.

**FY 2006 Accomplishments:**

- See Project BB of PE 0605502BR.

**FY 2007 Plans:**

- Fund 43.0 percent of DTRA SBIR investment including:
  - Up to ten Phase I SBIR contracts to perform feasibility studies on FY 2007 topics.
  - Up to two Phase II SBIR contracts to perform full research and development on promising FY 2006 Phase I efforts.

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- Share of incremental funding of FY 2006 Phase I and FY 2005 Phase II SBIR contract awards.

**FY 2008 Plans:**

- Not Applicable. See PE 0605502BR.

**FY 2009 Plans:**

- Not Applicable. See PE 0605502BR.

**C. Other Program Funding Summary:** Not Applicable.

**D. Acquisition Strategy:** Not Applicable.

**E. Major Performers:** Not Applicable.

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<b>APPROPRIATION/BUDGET ACTIVITY</b> RDT&E, Defense-Wide/Applied Research - BA2		<b>PROJECT NAME AND NUMBER:</b> 0602716BR Project BD – Weapons Effects Technologies	

Cost (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project BD - Weapons Effects Technologies	78.743	81.452	0.000	0.000	0.000	0.000	0.000	0.000

\* Funding and activities realigned into Projects RA, RG, RI, RL, RM and RU of PE 0602718BR and PE 0605000BR in FY 2008.

**A. Mission Description and Budget Item Justification:**

This project provides an over-arching framework for all Chemical, Biological, Radiological, Nuclear and High Explosive related modeling and simulation tools.

- Provides the warfighter and military engineers with state-of-the-art targeting support weapons effects models, structural dynamic models and computational tools for use in weaponeering, post strike assessment and force/mission protection. Develops, validates, and verifies lethality/vulnerability models and integrates those models into computational tools for expedient or deliberate pre-strike planning, post-strike assessment, intelligence analysis, and other related missions. Provide targeting support technology, tools and expertise in the areas of forensic analysis, vulnerability assessments and weapon/structure interactions in support of anti-terrorism and force protection missions.
- Provides nuclear weapon effects modeling and simulation, common DoD nuclear weapon stockpile and foreign nuclear weapon standard data handbooks for use in developing modeling and/or predictions of effects and subject matter expertise in nuclear weapon effects for joint DoD and Department of Energy nuclear studies and operational exercises.
- Develops an automated software system to provide the means to accurately predict the effects of hazardous material released into the atmosphere and its impact on civilian and military populations. The system uses integrated source terms, high-resolution weather forecasts and atmospheric transport & dispersion analyses to model hazard areas produced by military or terrorist incidents and industrial accidents.
- Capitalizes on expertise developed through DoD, other U.S. government, and non-government supported research in various technologies to support, maintain and sustain the WMD technology base. Additionally, identifies gaps in these capabilities and initiates programs to fill them.
- Provides validated modeling and simulation tools to enable rapid access for planning, emergency response and assessment capabilities across a broad spectrum of conventional, unconventional and nuclear scenarios. Significant initiatives focus on extending legacy and future capabilities through web-services and web-browser based delivery methods.
- Develops and validates Chemical and Biological Weapon defeat and disrupt weapon effectiveness and collateral release diagnostics for the warfighter to mitigate the impact of the effects of WMD on all aspects of warfighting, to include communications, radar and optical sensor systems.

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**B. Accomplishments/Planned Program:**

Cost (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Project BD - Weapons Effects Technologies	78.743	81.452	0.000	0.000

\*Funding and activities realigned into Projects RA, RG, RI, RL, RM and RU of PE 0602718BR and PE 0605000BR in FY 2008.

**Performance Metrics:**

- Number of software versions delivered to customer.
- Number of tests completed.
- Number of payloads developed.

**FY 2006 Accomplishments:**

- Initiated development and validation of live simulant tunnel test diagnostic technology for the evaluation of Agent Defeat variant weapons designed for employment against WMD targets.
- Continued development of the Kinetic Fireball submunition concept supporting counterforce agent defeat, deny, disrupt.
- Delivered Integrated Munitions Effects Assessment (IMEA) with Warfighter Wizard to assist in quick development of target solutions, and Vulnerability Assessment and Protection Option with improved Human Injury and Structural Element Response predictions.
- Implemented penetration data from tests of weapons against multi-story buildings to improve weaponeering methods against these targets.
- Identified DoD nuclear weapons infrastructure elements to support the Nuclear Posture Review and other strategic planning requirements.

**FY 2007 Plans:**

- Initiate development of a directed energy centric Agent Deny/Disrupt payload supporting counterforce agent defeat, deny, disrupt.
- Begin development of soft target agent defeat technologies supporting counterforce agent defeat, deny, disrupt.
- Deliver IMEA which will incorporate architectural improvements and enhanced modeling techniques.
- Deliver Improved Groundshock Vulnerability Number models used to assess vulnerability of deeply buried facilities.

**FY 2008 Plans:**

- Not Applicable. See Projects RA, RG, RI, RL, RM and RU of PE 0602718BR and PE 0605000BR in FY 2008.

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**FY 2009 Plans:**

- Not Applicable. See Projects RA, RG, RI, RL, RM and RU of PE 0602718BR and PE 0605000BR in FY 2008.

**C. Other Program Funding Summary:** Not Applicable.

**D. Acquisition Strategy:** Not Applicable.

**E. Major Performers:** Not Applicable.

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<b>APPROPRIATION/BUDGET ACTIVITY</b> RDT&E, Defense-Wide/Applied Research - BA2		<b>PROJECT NAME AND NUMBER:</b> 0602716BR Project BE – Testing Technologies and Integration

Cost (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project BE - Testing Technologies & Integration	22.880	19.915	0.000	0.000	0.000	0.000	0.000	0.000

\* Funding and activities realigned into Projects RA and RR of PE 0602718BR in FY 2008.

**A. Mission Description and Budget Item Justification:**

This project provides a unique national test bed capability for simulated WMD facilities characterization, weapon-target interaction, and WMD facilities defeat testing to respond to operational needs by developing and maintaining test beds used by the DoD, the Services, the Combatant Commanders and other federal agencies to evaluate the implications of WMD, conventional, and other special weapon use against U.S. military or civilian systems and targets. Fifty years of testing expertise is leveraged to investigate weapons effects and target response across the spectrum of hostile environments that could be created by proliferant nations or terrorist organizations with access to advanced conventional weapons or WMD (nuclear, biological and chemical). This project maintains testing infrastructure to support the requirements of warfighters, other government agencies, and friendly foreign countries. It develops testing strategies and a WMD test bed infrastructure focusing on the structural response of buildings and Hard & Deeply Buried Targets that house nuclear, biological, and chemical facilities; and supports full and sub-scale tests that focus on weapon-target interaction with fixed soft and hardened facilities to include aboveground facilities, cut-and-cover facilities and deep underground tunnels.

Cost (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Project BE - Testing Technologies & Integration	22.880	19.915	0.000	0.000

\*Funding and activities realigned into Projects RA and RR of PE 0602718BR in FY 2008.

**Performance Metrics:**

- Number of tests executed safely, i.e. no loss of life or limb, no unintentional significant damage of property.
- Number of tests that go through the milestone review process.
- Number of test activities that will undergo environmental assessment consistent with existing Environmental Impact Statements.

**FY 2006 Accomplishments:**

- Provided unique national test bed capabilities and support for 120 tests for weapon-target interaction and WMD threat reduction programs – 100% of tests executed safely and underwent milestone review and environmental assessment processes.

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- Supported Program Environmental Impact Statement process to support DTRA in proposed expansion of testing and related activities at White Sands Missile Range.
- Cleaned up Federal Facilities Agreement and Consent Order (FFACO) sites at the Nevada Test Site.
- Continued to maintain the Large Blast and Thermal Simulator in test ready condition, with the ability to conduct curtain wall tests and blast tests on short notice.
- Completed Large Test Structure-2 soil clean-up including disposal of waste chemical/biological simulants (White Sands Missile Range).

**FY 2007 Plans:**

- Construct a building for Test Operations Technology and Test Support (TOTTS), fabrication facility and Rotary Percussion Sounding System.
- Thermal Radiation Simulator (TRS) Site Closure.
- N-Tunnel Closure, T-Tunnel Closure and closure laydown yard (Nevada Test Site).
- Biological simulant disposal and Program Environmental Impact Statement (PEIS) Completion (White Sands Missile Range).
- Magnetic flyer (Magflyer) Capacitor Bank Disposal (Kirtland AFB).

**FY 2008 Plans:**

- Not Applicable. See Projects RA and RR of PE 0602718BR in FY 2008.

**FY 2009 Plans:**

- Not Applicable. See Projects RA and RR of PE 0602718BR in FY 2008.

**C. Other Program Funding Summary:** Not Applicable.

**D. Acquisition Strategy:** Not Applicable.

**E. Major Performers:** Not Applicable.

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<b>APPROPRIATION/BUDGET ACTIVITY</b> RDT&E, Defense-Wide/Applied Research - BA2	<b>PROJECT NAME AND NUMBER:</b> 0602716BR Project BF - CP Operational Warfighter Support	

Cost (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project BF - CP Operational Warfighter Support	92.086	98.357	0.000	0.000	0.000	0.000	0.000	0.000

\* Funding and activities realigned into Projects RA, RG, and RM of PE 0602718BR, Project RT of PE 0603160BR, and PE 0303150BR and PE 0302199BR in FY 2008.

**A. Mission Description and Budget Item Justification:**

This project integrates technologies developed in other WMD defeat projects, to conduct a full spectrum of tests to verify capability enhancement, to expose customers to these capabilities in exercises, wargames and demonstrations, to integrate WMD defeat technologies into customer operations, and to support use of these capabilities during contingency operations.

Provides the warfighter with the capabilities and understanding for countering the use and effect of WMD and weapons of mass effects through the advancement of simulation technology, assessment of operational impact, development of collaborative capabilities and access to mature computer models. Provide an interface between DTRA model developers and the weapons effects simulation community to ensure relevance of DTRA models in interactive simulations through compliance with standards and protocols. Use advanced simulations to assist the warfighter in quantifiably assessing operational theater plans and post-attack warfighting effectiveness and to develop alternatives to mitigate the effects of WMD.

It develops advanced energetics and weapon concepts and technologies for tunnel defeat as recommended in the Hard & Deeply Buried Targets (HDBT) Science and Technology Master Plan; develops, demonstrates and transitions to the warfighter end-to-end capabilities to defeat HDBT. These capabilities embody synergistic effects of optimizing attack planning, the weapon and kill mechanism, and the tactics, techniques and procedures necessary to defeat a spectrum of HDBT. This supports warfighting requirements derived from the HDBT Initial Capabilities Document and RDT&E priorities set by the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics.

Provides support to the Intelligence Community and the Combatant Commands by providing technologies and processes to find and characterize hard and deeply buried targets assess the results of attacks then against those targets.

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**B. Accomplishments/Planned Program:**

Cost (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Project BF - CP Operational Warfighter Support	92.086	98.357	0.000	0.000

\*Funding and activities realigned into Projects RA, RG and RM of PE 0602718BR, Project RT of PE 0603160BR, and PE 0303150BR and PE 0302199BR in FY 2008.

**Performance Metrics:**

- Number of large-scale tests completed.
- Number of target characterizations, 3-D target models and weaponeering solutions delivered to the Combatant Commanders and Intelligence Community in response to prioritized requirements.
- Percent increase of Counter WMD weapon performance compared to fielded weapons (e.g. Bomb, Live Unit (BLU)-109 and BLU-113).
- Number of targeting tools tested and delivered.

**FY 2006 Accomplishments:**

- Conducted five weapon lethality tests against tunnel targets including Joint Air to Surface Standoff Missile (JASSM), Joint Standoff Weapon (JSOW-C), Massive Ordnance Air-Blast (MOAB), near-simultaneous skip bombing, and optimized dual delivery for enhanced penetration.
- Conducted Massive Ordnance Penetrator (MOP) scaled penetration and lethality testing supporting full scale demonstrations planned for FY 2007.
- Completed construction and outfitting of tunnel facility testbed to support massive ordnance tests at the Capitol Peak Tunnel, White Sands Missile Range.
- Analyzed penetration data from tests of weapons against multi-story buildings to improve weaponeering methods against these targets.
- Delivered over 200 engineering characterizations and 700 3-D models of underground facilities to the warfighting commands and intelligence community to hold targets at risk.
- Conducted two exercises with warfighters to assess the utility of target characterization tools and processes.
- Trained over 200 DoD and intelligence community personnel on basic and advanced underground target characterization techniques to enhance the expertise of the targeting community.
- Conducted requirements review to initiate development of Integrated Sensor System for support of Underground Facility and WMD target

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characterization.

- Completed construction and outfitting of tunnel facility testbed to support full-sized ordnance lethality tests at Dugway Proving Ground.

**FY 2007 Plans:**

- Design and begin construction of the multi-story demonstration testbed with basement bunker defeat demonstration that will support weapon effects testing and the development of Air Force tactics, techniques, and procedures.
- Conduct large scale testing of weapons against a heavily protected bunker using existing weapons to fill gaps in weapon effects knowledge base and improve WMD planning tools.
- Begin integration of sensor systems data into our software tools to facilitate target status assessment for warfighters.
- Investigate adding WMD target characterization and assessment capabilities to the Hard Target Research and Analysis Center for program start in FY 2008.
- Continue Integrated Sensor System ground sensor requirements definition and begin system development to provide near-real-time data feed for enhanced target characterization and prompt bomb damage assessment.
- Provide target weaponeering recommendations to Targeting / Weaponeering Assistance Cell.
- Conduct full-size in-tunnel ordnance lethality tests at the DTRA Dugway Proving Ground tunnel testbed.

**FY 2008 Plans:**

- Not Applicable. See Projects RA, RG, and RM of PE 0602718BR, Project RT of PE 0603160BR, and PE 0303150BR and PE 0302199BR in FY 2008.

**FY 2009 Plans:**

- Not Applicable. See Projects RA, RG, and RM of PE 0602718BR, Project RT of PE 0603160BR, and PE 0303150BR and PE 0302199BR in FY 2008.

**C. Other Program Funding Summary:** Not Applicable.

**D. Acquisition Strategy:** Not Applicable.

**E. Major Performers:** Not Applicable.

## UNCLASSIFIED

<b>Exhibit R-2a, RDT&amp;E Budget Item Justification</b>		Date: February 2007
<b>APPROPRIATION/BUDGET ACTIVITY</b> RDT&E, Defense-Wide/Applied Research - BA2		<b>PROJECT NAME AND NUMBER:</b> 0602716BR Project BG – Nuclear Operations

Cost (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Project BG - Nuclear Operations	10.086	16.811	0.000	0.000	0.000	0.000	0.000	0.000

\* Funding and activities realigned into Projects RF of PE 0603160BR in FY 2008.

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

This project conducts the research, development, test, and evaluation required to carry out the agency's specified and implied missions articulated in the National Military Strategy, the Nuclear Posture Review, the Quadrennial Defense Review, and those directed by the Joint Chiefs of Staff in the Joint Strategic Capabilities Plan Nuclear Annex. It concurrently lays a foundation for potential transformation activities within the nuclear arena as identified in DoD's Transformation Planning Guidance.

It enhances deterrence and proactively supports the agency's mission of WMD threat reduction. The research and development is focused on adapting engineering and integrating current or new technologies into user -friendly instruments to meet the WMD threat. Initiatives supported by this project include, but are not limited to: integrating and applying new technological advances to improving capabilities for locating and detecting, and defeating and attributing, old and emerging WMD threats in both civilian and military areas (when possible or feasible, other government agencies' expertise or technologies are leveraged, most notably the Department of Energy and the Domestic Nuclear Detection Office; conducting critical nuclear research, development, test and evaluation in support of the Combatant Commanders, Military Services, JCS and Office of the Secretary of Defense through the oversight and response to the direction of the Nuclear Weapons Council; assesses the continuously evolving Chemical, Biological, Radiological, Nuclear and High Explosives threat posed by old and new actors in the 21st Century.

#### B. Accomplishments/Planned Program:

Cost (\$ in Millions)	FY 2006	FY 2007	FY 2008	FY 2009
Project BG - Nuclear Operations	10.086	16.811	0.000	0.000

\*Funding and activities realigned into Projects RF of PE 0603160BR in FY 2008.

#### Performance Metrics:

- Number of successful flight tests completed.
- Number of products provided to Special Operations Forces customers.

## UNCLASSIFIED

<b>Exhibit R-2a, RDT&amp;E Budget Item Justification</b>		Date: February 2007
<b>APPROPRIATION/BUDGET ACTIVITY</b> RDT&E, Defense-Wide/Applied Research - BA2	<b>PROJECT NAME AND NUMBER:</b> 0602716BR Project BG – Nuclear Operations	

- Number of databases updated/enhanced.

**FY 2006 Accomplishments:**

- Completed airlift and participation in Ardent Sentry 2006 and Hawaii ‘A Kele Exercise.
- Populated and updated the SENTRY/SNIPER databases. Added three-dimensional display/graphic features.
- Continued to explore technologies that can improve and/or enhance rapid deployable radiation detection equipment and tracking system. Collaborated with other agencies such as the newly created Domestic Nuclear Detection Office (DNDO) to leverage from their transformational research. Evaluated DNDO Broad Area Announcement on radiation detection R&D efforts.
- Delivered Handheld Chemical Detector prototype for Special Operations Forces (SOF) testing/evaluation.
- Delivered limited initial operational integrated attribution capability for the terrorist device defeat program.

**FY 2007 Plans:**

- Initiate Gladiator ground collection development to provide next-generation ground collection capability-semi-autonomous operations, improved ruggedness, increased load capacity and longer battery life.
- Complete flight tests for the Unmanned Aerial Vehicle (UAV) collection pod.
- Enhance/maintain the SENTRY/SNIPER databases. Expand three-dimensional features to include real-time fly thru models. Integrate chemical and biological weapon information into a comprehensive WMD data base.
- Develop sensors to detect WMD threats as far forward as possible and in all operational environments. Develop the capability to integrate data with a future interagency comprehensive, all domain WMD detection architecture (compatible with the Domestic Nuclear Detection Office concept), from collection to dissemination.
- Develop equipment that is waterproof, shockproof, and resistant to extreme conditions and sustained employment without significant operational degradation. Develop smaller, lighter weight detector systems for more diverse field employment.
- Test/evaluate Handheld Chemical Detector prototype for SOF forces.

**FY 2008 Plans:**

- Not Applicable. See Projects RF of PE 0603160BR.

**FY 2009 Plans:**

- Not Applicable. See Projects RF of PE 0603160BR.

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<b>Exhibit R-2a, RDT&amp;E Budget Item Justification</b>		Date: February 2007
<b>APPROPRIATION/BUDGET ACTIVITY</b> RDT&E, Defense-Wide/Applied Research - BA2	<b>PROJECT NAME AND NUMBER:</b> 0602716BR Project BG – Nuclear Operations	

**C. Other Program Funding Summary:** Not Applicable.

**D. Acquisition Strategy:** Not Applicable.

**E. Major Performers:** Not Applicable.