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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Defense Threat Reduction Agency **DATE:** February 2010

APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 1: <i>Basic Research</i>	R-1 ITEM NOMENCLATURE PE 0601000BR: <i>DTRA Basic Research Initiative</i>
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COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	28.798	40.848	47.412	0.000	47.412	47.737	48.071	48.493	48.925	Continuing	Continuing
RU: <i>*Fundamental Research for Combating WMD</i>	28.798	40.848	47.412	0.000	47.412	47.737	48.071	48.493	48.925	Continuing	Continuing

Note

*Project title change from Basic Research for WMD Knowledge Gaps starting in FY 2010

A. Mission Description and Budget Item Justification

The Defense Threat Reduction Agency (DTRA) safeguards America and its allies from Weapons of Mass Destruction (chemical, biological, radiological, nuclear, and high explosives) by providing capabilities to reduce, eliminate, and counter the threat, and mitigate its effects. The Basic Research Initiative program provides for the discovery and development of fundamental knowledge and understanding by research performers drawn primarily from academia and world-class research institutions in government and industry. This leverages Department of Defense's \$1 billion annual investment in basic research by ensuring a motivation within the scientific community to conduct research benefiting Weapons of Mass Destruction-related defense missions and by improving Agency knowledge of other research efforts of potential benefit to DTRA nonproliferation, counterproliferation and consequence management efforts.

These efforts are closely coordinated with the Chem-Bio Technology portfolio which executes a basic research program under the joint Chem-Bio Defense Program. Agency research interests are coordinated with those of Defense Advanced Research Projects Agency and Service basic research programs through the Defense Basic Research Advisory Group. DTRA reviews research interests annually to focus on technology areas not clearly addressed by other basic research efforts.

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APPROPRIATION/BUDGET ACTIVITY	R-1 ITEM NOMENCLATURE
0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i>	PE 0601000BR: <i>DTRA Basic Research Initiative</i>
BA 1: <i>Basic Research</i>	

B. Program Change Summary (\$ in Millions)

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011 Base</u>	<u>FY 2011 OCO</u>	<u>FY 2011 Total</u>
Previous President's Budget	22.329	48.544	0.000	0.000	0.000
Current President's Budget	28.798	40.848	47.412	0.000	47.412
Total Adjustments	6.469	-7.696	47.412	0.000	47.412
• Congressional General Reductions		-0.196			
• Congressional Directed Reductions		-7.500			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	-0.531	0.000			
• Realignment / Internal Functional Transfer	7.000	0.000	-0.210	0.000	-0.210
• Inflation Reduction	0.000	0.000	-0.266	0.000	-0.266
• Other Program Adjustments	0.000	0.000	47.888	0.000	47.888

Congressional Add Details (\$ in Millions, and Includes General Reductions)

Project: RU: **Fundamental Research for Combating WMD*

 Congressional Add: *Dual Use Technologies for Bio-Defense Drug & Novel Therapeutics*

 Congressional Add: *University Strategic Partnership*

Congressional Add Subtotals for Project: RU

Congressional Add Totals for all Projects

	<u>FY 2009</u>	<u>FY 2010</u>
	1.200	0.000
	3.200	0.000
	4.400	0.000
	4.400	0.000

Change Summary Explanation

The increase of \$12 million between FY 2009 and FY 2010 reflect the Agency's commitment to realign research efforts to achieve the Department of Defense's investment norm of 10-12% of total obligation authority for Basic Research. The Defense Threat Reduction Agency's basic research program supports high-payoff, novel research that will provide benefits to the warfighter in important areas of the Combating Weapons of Mass Destruction (CWMD) mission. Three exemplary areas are: (1) remote detection of fissile material; (2) defeat of WMD-related facilities and materials with acceptable collateral damage; and (3) advances in physical and social network analyses that fosters the means for countering electromagnetic pulse attacks and terrorism. Another very important

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0400: *Research, Development, Test & Evaluation, Defense-Wide*
BA 1: *Basic Research*

R-1 ITEM NOMENCLATURE
PE 0601000BR: *DTRA Basic Research Initiative*

benefit of basic research is the training of the next generation of scientists, who will be needed to support the warfighter in future operations against emerging WMD threats. The realignment in funding to basic research and systems engineering is to grow the scientific community in support of WMD research to provide far sighted, high payoff research to reduce, eliminate, and mitigate the effects of WMD. The FY 2010 congressional reduction was levied for excessive growth ahead of program assessment.

The DoD did not estimate FY 2011 costs when the FY 2010 President's Budget was prepared. There is a FY 2011 decrease that reflects the internal functional transfer of advisory and assistance services from DTRA's Research, Development, Test & Evaluation, Defense-Wide account to the Operation and Maintenance, Defense-Wide account (\$.210 million). This transfer reflects the internal functional realignment of advisory and assistance services and other business-related costs that were formerly captured under DTRA's Research, Development, Test & Evaluation, Defense-Wide account to the Operation and Maintenance, Defense-Wide account. As part of DTRA's continued effort to integrate and refine its functions and activities, this transfer more appropriately aligns this funding to the proper appropriation. At the Agency level, this functional transfer between appropriations will have a zero sum impact to these budget line items. An additional decrease of \$.266 million is associated with changes in the inflation rates and therefore is a price change, not a program change.

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APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 1: <i>Basic Research</i>				R-1 ITEM NOMENCLATURE PE 0601000BR: <i>DTRA Basic Research Initiative</i>				PROJECT RU: <i>*Fundamental Research for Combating WMD</i>			
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
RU: <i>*Fundamental Research for Combating WMD</i>	28.798	40.848	47.412	0.000	47.412	47.737	48.071	48.493	48.925	Continuing	Continuing

Note

*Project title change from Basic Research for WMD Knowledge Gaps starting in FY 2010

A. Mission Description and Budget Item Justification

This project provides for the discovery and development of fundamental knowledge and understanding by research performers drawn primarily from academia and world-class research institutions in government and industry. This leverages the Department of Defense's (DoD) \$1 billion annual investment in basic research by ensuring a motivation within the scientific community to conduct research benefiting Weapons of Mass Destruction-related defense missions and by improving Agency knowledge of other research efforts of potential benefit to Defense Threat Reduction Agency (DTRA) nonproliferation, counterproliferation and consequence management efforts. The increase in FY 2010 reflects the DTRA corporate decision to fund the 6.1 Basic Research program at the DoD investment norm of 10-12% of Total Obligation Authority.

These efforts are closely coordinated with the Chem-Bio Technology Portfolio which executes a basic research program under the joint Chem-Bio Defense Program. Agency research interests are coordinated with those of Defense Advanced Research Projects Agency and Service basic research programs through the Defense Basic Research Advisory Group. DTRA reviews research interests annually to focus on technology areas not clearly addressed by other basic research efforts.

B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Project RU: Fundamental Research for Combating WMD	24.398	40.848	47.412	0.000	47.412
<p><i>FY 2009 Accomplishments:</i></p> <ul style="list-style-type: none"> - Expanded the FY 2008 basic research portfolio to 100 basic research initiatives dedicated to developing better and new understanding of science principles that can underwrite science and technology to meet strategic challenges. Expanded opportunities to include foreign universities. The overall research goal to build a 6.1 portfolio that represents approximately 10-12% of the Defense 					

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B. Accomplishments/Planned Program (\$ in Millions)

	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
and to assess the coordination of CWMD basic research across DoD mission space and across the broader basic research community to avoid unintended duplication and ensure successful partnerships.					
Accomplishments/Planned Programs Subtotals	24.398	40.848	47.412	0.000	47.412

	FY 2009	FY 2010
Congressional Add: Dual Use Technologies for Bio-Defense Drug & Novel Therapeutics <i>FY 2009 Accomplishments:</i> - Basic research will focus on containment and renewal of viral threats.	1.200	0.000
Congressional Add: University Strategic Partnership <i>FY 2009 Accomplishments:</i> - Congressional Add funded 3 full and open competition grants to the University of New Mexico. - Basic research will focus on increasing fundamental understanding in the Counter WMD space.	3.200	0.000
Congressional Adds Subtotals	4.400	0.000

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

<u>Line Item</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u> <u>Base</u>	<u>FY 2011</u> <u>OCO</u>	<u>FY 2011</u> <u>Total</u>	<u>FY 2012</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• 20/0602718BR: <i>WMD Defeat Technologies</i>	14.711	13.484	10.385		10.385	10.160	10.011	9.846	9.690	Continuing	Continuing

D. Acquisition Strategy

Procurement methods include in-scope award through Defense Threat Reduction Agency University Strategic Partnership, collaborative funding through other organizations, and competitive award through Broad Agency Announcement.

E. Performance Metrics

Project performance is measured via a combination of statistics including the number of publications generated, number of students trained in sciences and engineering supporting DoD educational goals, number of research organizations participating, and percentage of participating universities on the US News & World Report "Best Colleges" list.

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