A. Mission Description and Budget Item Justification:

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 DoD $1 billion annual investment in basic research by ensuring a motivation within the scientific community to conduct research benefiting WMD-related defense missions and by improving Agency knowledge of other research efforts of potential benefit to DTRA non-proliferation, 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.
### B. Program Change Summary:

<table>
<thead>
<tr>
<th>Description</th>
<th>FY 2007</th>
<th>FY 2008</th>
<th>FY 2009</th>
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</thead>
<tbody>
<tr>
<td>Previous President's Budget</td>
<td>9.962</td>
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</tr>
<tr>
<td>Current President's Budget</td>
<td>13.270</td>
<td>10.831</td>
<td>18.000</td>
</tr>
<tr>
<td>Total Adjustments</td>
<td>3.308</td>
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</tr>
<tr>
<td>Congressional program reductions</td>
<td>-0.069</td>
<td></td>
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<tr>
<td>Congressional rescissions</td>
<td></td>
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<tr>
<td>Congressional increases</td>
<td></td>
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<td>5.900</td>
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<td>Reprogrammings</td>
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<td>SBIR/STTR Transfer</td>
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</table>

**Change Summary Explanation:**

A robust science and technology basic research program in DTRA enhances core technologies that support DTRA’s applied research and advanced development programs in the areas of hard target defeat, WMD defeat, WMD reconnaissance, and persistent Intelligence, Surveillance, and Reconnaissance. It initiates efforts with the national labs and energizes and sustains university researchers, and the Nation’s research infrastructure with fundamental knowledge, innovation, and ideas critical to long-range fundamental research in support of the DTRA core mission areas: (1) threat control; (2) threat reduction; (3) combat support and (4) technology development. The program is based on a 3-year cycle with a new start every year.

### C. Other Program Funding Summary:

See Exhibit R-2a.

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

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 the DoD $1 billion annual investment in basic research by ensuring a motivation within the scientific community to conduct research benefiting WMD-related defense missions and by improving Agency knowledge of other research efforts of potential benefit to DTRA non-proliferation, counterproliferation and consequence management efforts.

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B. Accomplishments/Planned Program:

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<tr>
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<td>0.000</td>
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* Funding and activities realigned to Project RU of PE 0601000BR in FY 2008.

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’s educational goals, number of research organizations participating, and percentage of participating universities on the US News & World Report “Best Colleges” list.
FY 2007 Accomplishments:
• Initiated basic research efforts, as funding permits, in the interest areas of: Radiological and Nuclear Detection Material Science; Novel High Energy Materials and Processes for Counter WMD Applications; Particulate And Agent Dynamics In Multiphase Turbulent Reacting Flows; Understanding Network Response to Attack; Adversarial Social Network Theory; Biodosimetry Biomarkers for Mixed Radiation Exposure; Thermal Bionanosensor Material Science; and Novel Methods for WMD Explosives Detection. Awarded 35 grants to 28 Universities in these topics.

FY 2008 Plans:
• Not Applicable. See Project RU of Program Element (PE) 0601000BR.

FY 2009 Plans:
• Not Applicable. See Project RU of PE 0601000BR.

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Procurement methods include in-scope award through DTRA University Strategic Partnership, collaborative funding through other organizations, and competitive award through Broad Agency Announcement.

E. Major Performers: Not Applicable.
APPROPRIATION/BUDGET ACTIVITY
RDT&E, Defense-Wide/Basic Research – BA1

PROJECT NAME AND NUMBER: 0601000BR
Project RU – Basic Research for WMD Knowledge Gaps

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<tbody>
<tr>
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* Funding and activities realigned from Project BT of Program Element (PE) 0601000BR in FY 2008.

A. Mission Description and Budget Item Justification:

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 the DoD $1 billion annual investment in basic research by ensuring a motivation within the scientific community to conduct research benefiting WMD-related defense missions and by improving Agency knowledge of other research efforts of potential benefit to DTRA non-proliferation, counterproliferation and consequence management efforts.

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B. Accomplishments/Planned Program:

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>FY 2007</th>
<th>FY 2008</th>
<th>FY 2009</th>
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<tbody>
<tr>
<td>RU - Basic Research for WMD Knowledge Gaps</td>
<td>0.000</td>
<td>10.831</td>
<td>18.000</td>
</tr>
</tbody>
</table>

* Funding and activities realigned from Project BT of PE 0601000BR in FY 2008.

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’s educational goals, number of research organizations participating, and percentage of participating universities on the US News & World Report “Best Colleges” list.

FY 2007 Accomplishments:

- Not Applicable. See Project BT of PE 0601000BR.
FY 2008 Plans:
- Expand the FY 2007 basic research portfolio to 90 basic research initiatives dedicated to advancing knowledge across a broad spectrum of science and multi-disciplined research areas. The initial 30 FY 2007 grantees were composed of universities and the FY 2008 portfolio will expand the portfolio to include research by Service and National Laboratories, as well as non-profit entities with university partners.

FY 2009 Plans:
- Expand the FY 2008 basic research portfolio by adding an additional 90 research investigators to the basic research community dedicated to developing better and new understanding of science principals that can underwrite science and technology to meet strategic challenges. The overall research goal is to have a 6.1 portfolio that represents approximately 10% of the DTRA research and development investment in the FY 2010 timeframe.

C. Other Program Funding Summary: Not Applicable.

D. Acquisition Strategy: Procurement methods include in-scope award through DTRA University Strategic Partnership, collaborative funding through other organizations, and competitive award through Broad Agency Announcement.

E. Major Performers: Not Applicable.