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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Office of Secretary Of Defense **DATE:** February 2010

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 6: <i>RDT&E Management Support</i> | R-1 ITEM NOMENCLATURE PE 0605798D8Z: <i>Defense Technology Analysis</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 | 9.503 | 11.710 | 13.858 | 0.000 | 13.858 | 15.672 | 15.661 | 15.527 | 15.792 | Continuing | Continuing |
| P797: <i>Defense Technology Analysis</i> | 5.000 | 6.379 | 5.939 | 0.000 | 5.939 | 6.569 | 6.439 | 6.125 | 6.211 | Continuing | Continuing |
| P798: <i>DDR&E Support Teams</i> | 4.503 | 5.331 | 3.919 | 0.000 | 3.919 | 5.003 | 5.022 | 5.102 | 5.181 | Continuing | Continuing |
| P796: <i>Lab Resource Management</i> | 0.000 | 0.000 | 4.000 | 0.000 | 4.000 | 4.100 | 4.200 | 4.300 | 4.400 | Continuing | Continuing |

A. Mission Description and Budget Item Justification

The Director, Defense Research and Engineering (DDR&E) is the principal staff advisor to the Under Secretary of Defense for Acquisition, Technology & Logistics (USD(AT&L)) and the Secretary and Deputy Secretary of Defense for research and engineering (R&E) matters. In this capacity, the DDR&E has the responsibility to conduct analyses and studies; develop policies; provide technical leadership, oversight and advice; make recommendations; and issue guidance for the DoD R&E plans and programs. Additionally, the DDR&E provides technical support to the USD(AT&L) on R&E aspects of programs subject to review by the Defense Acquisition Board, to include assessments of technology consistent with DoD acquisition policy.

This program element provides mission support to the Office of the DDR&E (ODDR&E). It covers a wide range of studies and analyses in support of the R&E program and impacts the Department's decision to fund RDT&E efforts. The DoD's key expertise for reviewing and guiding R&E programs resides in the ODDR&E. The ODDR&E staff augments their responsibilities through their connections to technology experts in various fields throughout academia, industry, and government. This project supports the directed responsibilities by building DDR&E teams of technology experts to conduct program technical assessments. The teams will analyze the key engineering problem areas and offer adjustments in the development and test plan; alternate technical approaches; or new technologies that could enable successful development. The teams will constitute expert non-advocate reviews and gather advice from the Nation's leading technical experts. Future capabilities will depend on today's R&E investment. Consequently, the mission of the DoD R&E program is to create, demonstrate, prototype, and apply technology that enables affordable and decisive military superiority to defeat any adversary on any battlefield. Pursuing the R&E mission requires attention to: identification and development of new technological opportunities; insertion of new technologies into warfighting systems and operations; and management and evaluation of the effectiveness of technology programs. A successful R&E program is connected to the acquisition Program Managers/Program Executive Officers to ensure the best possible technology is being integrated into acquisition systems.

This program element also provides engineering, scientific, and analytical support to the Office of the Director, Research in its responsibility for direction, overall quality, and content of the science and technology (S&T) program and ensures that the technology being developed is affordable and minimizes system development

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 6: <i>RDT&E Management Support</i> | R-1 ITEM NOMENCLATURE PE 0605798D8Z: <i>Defense Technology Analysis</i> |
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risk. The primary purpose of this program element is to facilitate the development of the S&T program and to conduct assessments and analyses of the program to ensure maximum utilization of Research and Development funds to accomplish the overall objectives of the S&T program. The Weapons Systems Acquisition Reform Act (WSARA) of 2009 expanded the role of the DDR&E in acquisition decisions. Full implementation of the Act requires increases in both the number and depth of technology maturity assessments. FY 2011 funding reflects WSARA requirements. Funds are required for technical, analytical and management support; equipment and supplies; travel; and publications.

Technology Integration activities advance international S&T cooperation of specific projects of bilateral or multilateral interest. It provides the management support for U.S. participation in NATO's Research and Technology Organization (RTO) and The Technical Cooperation Program (TTCP). Technology Integration oversees, coordinates, and reviews RTO and TTCP activities in which the U.S. has an interest including ongoing and proposed collaborative programs, technical symposia and conferences, and standard operating procedures. This effort will leverage Tri-Service S&T dollars through new and ongoing international partnerships. Technology Integration also provides selective funding support for administration, travel, conferences, and technical evaluations related to RTO activities carried out by the Services and other organizations.

This program element also provides funding for the Laboratory Resource Management Office (LRMO) in the ODDR&E. The LRMO advocates and invests in the DoD laboratory system in three areas: facilities and infrastructure; quality of workforce; and global insight of critical or strategic technologies important to DoD and the Nation.

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 | 11.040 | 11.005 | 0.000 | 0.000 | 0.000 |
| Current President's Budget | 9.503 | 11.710 | 13.858 | 0.000 | 13.858 |
| Total Adjustments | -1.537 | 0.705 | 13.858 | 0.000 | 13.858 |
| • Congressional General Reductions | | 0.000 | | | |
| • Congressional Directed Reductions | | 0.000 | | | |
| • Congressional Rescissions | 0.000 | 0.000 | | | |
| • Congressional Adds | | 0.000 | | | |
| • Congressional Directed Transfers | | 0.000 | | | |
| • Reprogrammings | -1.230 | 0.000 | | | |
| • SBIR/STTR Transfer | -0.307 | 0.000 | | | |
| • Other Program Adjustments | 0.000 | 0.705 | 13.858 | 0.000 | 13.858 |

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| Exhibit R-2A, RDT&E Project Justification: PB 2011 Office of Secretary Of Defense | | | | | | | | DATE: February 2010 | | | | |
| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 6: <i>RDT&E Management Support</i> | | | | R-1 ITEM NOMENCLATURE PE 0605798D8Z: <i>Defense Technology Analysis</i> | | | | PROJECT P797: <i>Defense Technology Analysis</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 | |
| <i>P797: Defense Technology Analysis</i> | 5.000 | 6.379 | 5.939 | 0.000 | 5.939 | 6.569 | 6.439 | 6.125 | 6.211 | Continuing | Continuing | |
| Quantity of RDT&E Articles | | | | | | | | | | | | |
| A. Mission Description and Budget Item Justification | | | | | | | | | | | | |
| <p>This project provides engineering, scientific and analytical support to the Office of the Director, Research in its responsibility for direction, overall quality, and content of the Science and Technology (S&T) program and ensures that the technology being developed is affordable and minimizes system development risk. The primary purpose of this program element is to facilitate the development of the S&T program and to conduct assessments and analyses of the program to ensure maximum utilization of Research and Development funds to accomplish the overall objectives of the S&T program. The Weapons Systems Acquisition Reform Act (WSARA) of 2009 expanded the role of the DDR&E in acquisition decisions. Full implementation of the Act requires increases in both the number and depth of technology maturity assessments. FY 2011 funding reflects WSARA requirements. Funds are required for technical, analytical, and management support; travel; and publications.</p> <p>Technology Integration activities advance international S&T cooperation of specific projects of bilateral or multilateral interest. It provides the management support for U.S. participation in NATO's Research and Technology Organization (RTO) and The Technical Cooperation Program (TTCP). Technology Integration oversees, coordinates and reviews RTO and TTCP activities in which the U.S. has an interest including ongoing and proposed collaborative programs, technical symposia and conferences, and standard operating procedures. This effort will leverage Tri-Service S&T investments through new and ongoing international partnerships. Technology Integration also provides selective funding support for administration, travel, conferences, and technical evaluations related to RTO activities carried out by the DoD Components.</p> | | | | | | | | | | | | |
| B. Accomplishments/Planned Program (\$ in Millions) | | | | | | | | | | | | |
| | | | | | | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total | | |
| DoD Technical Analysis | | | | | | 5.000 | 6.379 | 5.939 | 0.000 | 5.939 | | |
| <i>FY 2009 Accomplishments:</i> Provided engineering, scientific, analytical, and managerial support to the ODDR&E via contract vehicles to private industry and Federally Funded Research and Development Centers. Publications | | | | | | | | | | | | |

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| APPROPRIATION/BUDGET ACTIVITY 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 6: <i>RDT&E Management Support</i> | R-1 ITEM NOMENCLATURE PE 0605798D8Z: <i>Defense Technology Analysis</i> | PROJECT P798: <i>DDR&E Support Teams</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 |
|--------------------------------------|----------------|------------------|-----------------------|----------------------|------------------------|------------------|------------------|------------------|------------------|------------------|------------|
| <i>P798: DDR&E Support Teams</i> | 4.503 | 5.331 | 3.919 | 0.000 | 3.919 | 5.003 | 5.022 | 5.102 | 5.181 | Continuing | Continuing |
| Quantity of RDT&E Articles | | | | | | | | | | | |

A. Mission Description and Budget Item Justification

The Department of Defense's (DoD's) key expertise for reviewing and guiding research and engineering programs resides in the Office of the Director Defense Research and Engineering (ODDR&E). The ODDR&E staff augments their responsibilities through their connections to technology experts in various fields throughout academia, industry, and government. This project supports the directed responsibilities by building teams of technology experts to conduct program technical health check-ups. The teams will analyze the key engineering problem areas and offer adjustments in the development and test plan; alternate technical approaches; or new technologies that could enable successful development. The teams will constitute expert non-advocate reviews and gather advice from the Nation's leading technical experts. Future capabilities will depend on today's R&E investment. Consequently, the mission of the DoD R&E program is to create, demonstrate, prototype, and apply technology that enables affordable and decisive military superiority to defeat any adversary on any battlefield. Pursuing the R&E mission requires attention to: identification and development of new technological opportunities; insertion of new technologies into warfighting systems and operations; and management and evaluation of the effectiveness of technology programs. A successful R&E program is connected to the acquisition Program Managers/Program Executive Officers to ensure the best possible technology is being integrated into acquisition systems.

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

| | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total |
|---|---------|---------|--------------|-------------|---------------|
| DDR&E Support Teams <i>FY 2009 Accomplishments:</i> Provided direct support to six Defense Support Teams (DSTs) and seven Joint Assessment Teams (JATs). Over fifty DSTs and JATs have been completed or are underway. In addition to direct support, many received indirect support through multiple sources of technical expertise. Established process and procedures to address USD(AT&L) policy for the definition and governance of DSTs and JATs. Contract vehicles to obtain diverse technical expertise were put into place or were initiated. | 4.503 | 5.331 | 3.919 | 0.000 | 3.919 |

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E. Performance Metrics

Several indicators allow the Department to measure the success of the Defense Technology Analysis program element:

- The number of technological introspections as evidenced by completed Technology Readiness Assessments and DDR&E's influence on acquisition decisions serve as valuable indicators of the program's effectiveness.
- The establishment and outputs of Defense Support Teams and Joint Analysis Teams are additional indicators of program metrics.
- Feedback into the oversight mechanisms of the S&T program to guide investment decisions serve as additional metrics.

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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 |
| <i>P796: Lab Resource Management</i> | 0.000 | 0.000 | 4.000 | 0.000 | 4.000 | 4.100 | 4.200 | 4.300 | 4.400 | Continuing | Continuing |
| Quantity of RDT&E Articles | | | | | | | | | | | |
| A. Mission Description and Budget Item Justification | | | | | | | | | | | |
| This project provides funding for the Laboratory Resource Management Office (LRMO) in the ODDR&E. The LRMO advocates and invests in the DoD laboratory system in three areas: facilities and infrastructure; quality of workforce; and global insight of critical or strategic technologies important to the DoD and the Nation. | | | | | | | | | | | |
| B. Accomplishments/Planned Program (\$ in Millions) | | | | | | | | | | | |
| | | | | | | FY 2009 | FY 2010 | FY 2011 Base | FY 2011 OCO | FY 2011 Total | |
| LRMO Advocacy for DoD Laboratories | | | | | | 0.000 | 0.000 | 1.300 | 0.000 | 1.300 | |
| <i>FY 2011 Base Plans:</i> Using the DoD Laboratory Strategic Plan developed in FY-10, the LRMO will analyze the laboratories' capabilities in terms of infrastructure, personnel and investment portfolio to determine their alignment with strategic technology areas and create opportunities to build capability in those areas of greatest importance to the Department. Labs which can support strategic technology areas may be designated as DoD Laboratory Enterprise Centers of Excellence (CoE) and become eligible for targeted funding in FY 2012 and out. | | | | | | | | | | | |
| Technical Grand Challenge Program | | | | | | 0.000 | 0.000 | 2.700 | 0.000 | 2.700 | |
| <i>FY 2011 Base Plans:</i> By direction of the DDR&E, the LRMO will sponsor a program that poses a technology problem to the DoD Laboratory system in the context of a competition. The competition is being executed during FY 2010 and FY 2011 with an estimated total cost of \$20M (including funding from other sources). This project provides funding for the management of the project and the range fees. | | | | | | | | | | | |
| Accomplishments/Planned Programs Subtotals | | | | | | 0.000 | 0.000 | 4.000 | 0.000 | 4.000 | |

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| APPROPRIATION/BUDGET ACTIVITY | R-1 ITEM NOMENCLATURE | PROJECT |
|--|---|--------------------------------------|
| 0400: <i>Research, Development, Test & Evaluation, Defense-Wide</i> BA 6: <i>RDT&E Management Support</i> | PE 0605798D8Z: <i>Defense Technology Analysis</i> | P796: <i>Lab Resource Management</i> |

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

N/A

D. Acquisition Strategy

N/A

E. Performance Metrics

N/A

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