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**Exhibit R-2, RDT&E Budget Item Justification:** PB 2012 Office of Secretary Of Defense **DATE:** February 2011

**APPROPRIATION/BUDGET ACTIVITY**

0400: *Research, Development, Test & Evaluation, Defense-Wide*  
BA 6: *RDT&E Management Support*

**R-1 ITEM NOMENCLATURE**

PE 0605804D8Z: *Development Test & Evaluation*

<b>COST (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
Total Program Element	33.115	18.688	15.805	-	15.805	16.053	16.666	17.276	17.834	Continuing	Continuing
P804: <i>Development Test &amp; Evaluation</i>	28.973	17.195	15.805	-	15.805	16.053	16.666	17.276	17.834	Continuing	Continuing
P805: <i>Software Engineering and System Assurance</i>	2.602	-	-	-	-	-	-	-	-	Continuing	Continuing
P806: <i>Energy</i>	1.540	1.493	-	-	-	-	-	-	-	Continuing	Continuing

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

The Developmental Test and Evaluation program element is budgeted in the Research and Development budget activity because it supports and assesses the DT&E efforts of each Major Defense Acquisition Program (MDAP) and other Special Interest acquisition programs as designated by USD (AT&L), assesses the DT&E capabilities of the Military Departments and DoD Components, oversees the DT&E acquisition workforce, issues policy and guidance for the conduct of DT&E within DoD, and produces the annual DT&E report to Congress.

The Department of Operational Energy Plans and Programs (DOEPP) is funded within this program element in FY11 for technical analysis and policy guidance for the DoD operational energy programs and initiatives, including institutionalizing energy in DoD's business processes (e.g., Fully Burdened Cost of Fuel and the Energy Efficiency Key Performance Parameters (KPPs)). In FY12, funding will be re-allocated to a new DOEPP Program Element.

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0400: *Research, Development, Test & Evaluation, Defense-Wide*  
 BA 6: *RDT&E Management Support*

**R-1 ITEM NOMENCLATURE**

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<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012 Base</b>	<b>FY 2012 OCO</b>	<b>FY 2012 Total</b>
Previous President's Budget	23.512	18.688	17.599	-	17.599
Current President's Budget	33.115	18.688	15.805	-	15.805
Total Adjustments	9.603	-	-1.794	-	-1.794
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	10.500	-			
• SBIR/STTR Transfer	-0.672	-			
• Other Program Adjustments	-0.225	-	-	-	-
• Defense Efficiency - Baseline Review	-	-	-0.158	-	-0.158
• Defense Efficiency-Report, Studies, Boards and Commissions	-	-	-0.442	-	-0.442
• Defense Efficiency – Contractor Staff Support	-	-	-1.169	-	-1.169
• Economic Assumptions	-	-	-0.025	-	-0.025

**Change Summary Explanation**

The Weapon System Acquisition Reform Act (WSARA) of 2009 directed a new Office of the Director, Systems Engineering and Office of the Director, Developmental Test and Evaluation. In FY 2011, funding in the amount of \$21.244M from this Program Element (P805) for previous systems and software engineering efforts, has been transferred to a new Systems Engineering Program Element (0605142D8Z). This transfer accounts for the decrease in funding in the 0605804D8Z Program Element from FY 2010 to FY 2011.

Defense Efficiency – Baseline Review. As part of the Department of Defense reform agenda, implements a zero-based review of the organization to align resources to the most critical priorities and eliminate lower priority functions.

Defense Efficiency – Report, Studies, Boards and Commissions. As part of the Department of Defense reform agenda, reflects a reduction in the number and cost of reports, studies, DoD Boards and DoD Commissions below the aggregate level reported in previous budget submission.

Defense Efficiency – Contractor Staff Support. As part of the Department of Defense reform agenda, reduces funds below the aggregate level reported in the previous budget submission for contracts that augment staff functions.

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Office of Secretary Of Defense								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 6: RDT&E Management Support				R-1 ITEM NOMENCLATURE PE 0605804D8Z: Development Test & Evaluation				PROJECT P804: Development Test & Evaluation			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
P804: Development Test & Evaluation	28.973	17.195	15.805	-	15.805	16.053	16.666	17.276	17.834	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>This (P804) program supports and assesses the DT&amp;E efforts of each Major Defense Acquisition Program (MDAP) and other Special Interest acquisition programs as designated by USD (AT&amp;L), assesses the DT&amp;E capabilities of the Military Departments and DoD Components, oversees the DT&amp;E acquisition workforce, issues policy and guidance for the conduct of DT&amp;E within DoD, and produces the annual DT&amp;E report to Congress. Specific activities include the following:</p> <p>-- Review and approve the Test and Evaluation Strategy (TES) and Test and Evaluation Master Plans (TEMPs) for each MDAP and USD (AT&amp;L) designated Special Interest program.</p> <p>-- Provide the Milestone Decision Authority with independent evaluations of acquisition program DT&amp;E planning, execution, and system performance.</p> <p>-- Coordinate closely with the Director of Systems Engineering to ensure that the developmental test and evaluation activities of the Department of Defense are fully integrated into and consistent with the systems engineering and development planning processes of the Department.</p> <p>-- Provide Assessments of Operational Test Readiness (AOTRs) to inform the Service Acquisition Executive on readiness of Programs to proceed into Initial Operational Test and Evaluation with a high probability of being found operationally effective, suitable and survivable.</p> <p>-- Develop policy and guidance to ensure efficient and effective DT&amp;E across DoD, including policy and guidance for joint T&amp;E and, in conjunction with Director, Operational Test and Evaluation (DOT&amp;E), integrated DT&amp;E and OT&amp;E.</p> <p>-- Provide DT&amp;E assessments for the Systems Engineering Program Support Review process, Nunn-McCurdy certification review teams, and the Director, Performance Assessment and Root Cause Analysis (PARCA).</p> <p>-- Review the organizations and capabilities of the military departments with respect to developmental test and evaluation and identify needed changes or improvements to such organizations and capabilities, and provide input regarding needed changes or improvements for the test and evaluation strategic plan developed by TRMC.</p> <p>-- Developing policy, guidance and certification standards to enhance DT&amp;E acquisition workforce planning and progression. Monitoring and facilitating Defense Acquisition University (DAU) updates of T&amp;E courses to ensure the curriculum supports the certification standards and provides the appropriate education and training.</p> <p>The decrease in funding from FY 2010 to FY 2011 is due to the WSARA of 2009, which directed a new Office of the Director, Systems Engineering, in FY 2011 to receive their a new Systems Engineering Program Element (0605142D8Z).</p>											
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2010	FY 2011	FY 2012	
Title: Developmental Test and Evaluation Accomplishments and Plans								28.973	17.195	15.805	
FY 2010 Accomplishments:											

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Office of Secretary Of Defense		<b>DATE:</b> February 2011	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605804D8Z: <i>Development Test &amp; Evaluation</i>	<b>PROJECT</b> P804: <i>Development Test &amp; Evaluation</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2010</b>	<b>FY 2011</b>
<p>-Completed the first Joint Annual Report to Congress.</p> <p>-Increased staff to match Phase I planning for both Government and Contractor staff to meet Title 10 roles and responsibilities.</p> <p>-Promoted the application of sound systems engineering, developmental test and evaluation, and related technical disciplines across the Department's acquisition community and programs.</p> <p>-Developed and submitted DoD Instruction on Developmental Test and Evaluation.</p> <p>-Provided necessary Test Modeling and Simulation (M&amp;S) policy and guidance; execute Acquisition M&amp;S Master Plan; manage M&amp;S Steering Committee funded projects; and develop M&amp;S policy and guidance recommendations, as required.</p> <p>-Published 3 formal AOTRs (MIDS JTRS, Global Hawk, and Stryker NBCRV), and supported all FY10 Nunn-McCurdy re-certifications.</p> <p>-Conducted reviews and approvals of 33 TEMPs and 3 TESs required to support major acquisition reviews for MDAPs.</p> <p>-Conducted assessments of DT adequacy and program readiness in support of 51 Defense Acquisition Board decisions.</p> <p>-Drafted JME DoD test policy; monitored and facilitated improvements of T&amp;E methods and processes; and monitored and facilitated improvements of T&amp;E infrastructure to support Joint Warfighting Capability concept development.</p> <p>-Integrated safety process advances into the DoD 5000 Series and the Defense Acquisition Guidebook (DAG) to reflect reporting safety risks throughout the systems life cycle; evaluated/introduced safety technologies into new and legacy systems; and streamlined joint safety certification requirements.</p> <p><b>FY 2011 Plans:</b></p> <p>-Continue hiring/staffing to support WSARA mission.</p> <p>-Refine internal processes to support acquisition decisions.</p> <p>-Refine the annual reporting process and develop the second Joint Annual Report to Congress.</p> <p>-Develop DT&amp;E policies and methodologies addressing Scientific Test and Evaluation Design, Responsible Test Organizations, T&amp;E of Cyber defense, Net-Ready Key Performance Parameter (KPP) and Information Assurance.</p> <p>-Publish formal AOTRs for all Programs under DT&amp;E oversight prior to entry into IOT&amp;E.</p> <p>-Conduct review and approval of all TEMPs and TESs submitted to support major acquisition reviews for MDAPs.</p> <p>-Provide data-based assessments of system performance in support of all scheduled Defense Acquisition Board decisions.</p> <p>-Continue to promote the application of sound systems engineering, DT&amp;E, and related technical disciplines across the Department's acquisition community and programs.</p> <p>-Monitor T&amp;E resource availability and TRMC Strategic Plan implementation.</p> <p><b>FY 2012 Plans:</b></p> <p>-Reassess Government and Contractor staff manning and resources and ability to meet Title 10 roles and responsibilities.</p> <p>-Refine internal processes to support acquisition decisions.</p> <p>-Refine annual reporting process and develop Joint Annual Report to Congress.</p>			

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Office of Secretary Of Defense		<b>DATE:</b> February 2011	
<b>APPROPRIATION/BUDGET ACTIVITY</b> 0400: <i>Research, Development, Test &amp; Evaluation, Defense-Wide</i> BA 6: <i>RDT&amp;E Management Support</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0605804D8Z: <i>Development Test &amp; Evaluation</i>	<b>PROJECT</b> P804: <i>Development Test &amp; Evaluation</i>	
<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2010</b>	<b>FY 2011</b>
<ul style="list-style-type: none"> <li>-Refine DT&amp;E policies and methodologies addressing DT&amp;E across all MDAP and Special Interest programs.</li> <li>-Publish formal AOTRs for all Programs under DT&amp;E oversight prior to entry into IOT&amp;E.</li> <li>-Conduct review and approval of all TEMPs and TESs submitted to support major acquisition reviews for MDAPs.</li> <li>-Provide data-based assessments of system performance in support of all scheduled Defense Acquisition Board decisions.</li> <li>-Continue to promote the application of sound systems engineering, DT&amp;E, and related technical disciplines across the Department's acquisition community and programs.</li> </ul>			
<b>Accomplishments/Planned Programs Subtotals</b>		28.973	17.195
<b>C. Other Program Funding Summary (\$ in Millions)</b>			
N/A			
<b>D. Acquisition Strategy</b>			
N/A			
<b>E. Performance Metrics</b>			
N/A			

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APPROPRIATION/BUDGET ACTIVITY 0400: Research, Development, Test & Evaluation, Defense-Wide BA 6: RDT&E Management Support				R-1 ITEM NOMENCLATURE PE 0605804D8Z: Development Test & Evaluation				PROJECT P805: Software Engineering and System Assurance			
COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
P805: Software Engineering and System Assurance	2.602	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
Due to the Weapons Systems Reform Acquisition Act of 2009, which directed a new Office of the Director, Systems Engineering, in FY 2011, funding from this project (P805) for previous Director, Systems and Software Engineering efforts, have been transferred to a new Systems Engineering Program Element (0605142D8Z).											
B. Accomplishments/Planned Programs (\$ in Millions)									FY 2010	FY 2011	FY 2012
Title: Software Engineering and System Assurance Initiatives									2.602	-	-
FY 2010 Accomplishments: Supported Acquisition Success: - Provided software and system assurance expertise for ACAT ID/IAM and special interest programs.  Improved State-of-the-Practice of Software Engineering: - Developed strategies to address software systemic issues - Established System Assurance policy for DoD acquisition programs. - Performed v2.0 update to the Capability Maturity Model Integration (CMMI). - Developed System of System (SoS) Engineering guidance to support specific customers (ie. Program Office Staffs), and specific issues (ie. T&E, M&S) based on pilot applications.  Provided Software Leadership and Outreach: - Participated in Service-led software initiatives, e.g., Army Strategic Software Improvement Program and multi-national forums, e.g., Software Intensive Systems Acquisition Improvement Group. - Continued implementation of Department/National strategic plan for meeting defense software requirements. - Lead the SoS Community in research and application via the National Defense Industrial Association (NDIA) System of Systems SE Committee.  Ensured Adequate Software Resources to Meet DoD Needs: - Expanded DoD Acquisition curriculum efforts beyond the Program Manager career field into systems engineering. - Published the Graduate Software Engineering Reference Curriculum - Developed education and training modules for program protection and SoS SE.											

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2010</b>	<b>FY 2011</b>
<p>Objectives: Tools and techniques updated; program support provided to ACAT ID/IAM and special interest programs; expanded set of partners and updated agenda.</p> <p>Artifacts: SoS Engineering Guide, CMMI v2.0, DoD Software Strategic Plan; conference sponsorship and participation (e.g., Systems and Software Technology Conference, Systems Engineering); and updated DAU curriculum with software considerations.</p> <p><b><i>FY 2011 Plans:</i></b> Efforts transferred to a new Systems Engineering Program Element (0605142D8Z) in FY 2011.</p>			
<b>Accomplishments/Planned Programs Subtotals</b>		2.602	-
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<b>D. Acquisition Strategy</b> N/A			
<b>E. Performance Metrics</b> N/A			

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COST (\$ in Millions)	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total	FY 2013	FY 2014	FY 2015	FY 2016	Cost To Complete	Total Cost
P806: Energy	1.540	1.493	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
This program develops model revisions and enabling analyses to implement legislative requirements for analyzing, implementing and overseeing the implementation of the Fully Burdened Cost of Fuel (FBCF), the Energy Efficiency Key Performance Parameter and related acquisition planning factors directed in the 2009 National Defense Authorization Act (NDAA)(10 USC 2925). That statute mandated use of the FBCF in systems development, platform design and assessments of total ownership cost of systems. This effort focuses on building; analytical and modeling tools and methods to create more accurate Fully Burdened Cost of Fuel estimates for acquisition programs; applicable Energy Key Performance Parameter (KPP) metrics for program managers and oversight authorities; modifications to existing and potentially new alternative tactical, operational and strategic-level models that capture operational energy risk for Military Department, Joint Staff and Office of the Secretary of Defense planners, policy-makers and oversight authorities.											
Work conducted under this line will focus on research and development prioritization analysis related to identified operational energy capability gaps; campaign-level model modifications to allow simulated US logistics forces to interact independently in analysis and planning; energy tool development for military requirements analysts related to operational energy gaps, etc.											
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2010	FY 2011	FY 2012	
Title: Energy Initiatives								1.540	1.493	-	
FY 2010 Accomplishments: Fielded a draft Fully Burdened Cost of Fuel (FBCF) analytical methodology and calculator supporting methodological guidance (instructions, manuals and handbooks) and metrics for integration and application of the FBCF into DoD acquisition system. These documents and models are currently hosted on the Defense Acquisition University website for community use and refinement. Supported post-QDR implementation work on operational energy concerns in Service Title 10 wargames and related analyses. Collaborated with Military Department Energy Offices and acquisition organizations to refine and implement FBCF analyses within targeted acquisition programs. Resourced and guided two joint studies with the Joint Staff J4 and the Navy Energy Coordination Office demonstrating and refining the Energy KPP and the FBCF within relevant case studies and explained how to apply the methods to emerging acquisition programs.											
FY 2011 Plans: Provide direct analytic support and model development support to the Director for Operational Energy Plans & Programs. Work conducted under this line may include research and development prioritization analysis related to identified operational energy capability gaps; campaign-level model modifications to allow simulated US logistics forces to interact independently in analysis and planning; energy tool development for military requirements analysts related to operational energy gaps, identification											

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<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>		<b>FY 2010</b>	<b>FY 2011</b>
and collection of operational energy data to support development of metrics and establish an operational energy baseline for the Department, among other areas. All work under this line will also provide a basis for broader analyses within the Analytic Agenda, in which these organizations will help interject more realistic fuel logistics risk assessment, alternative force structure assessments, etc.			
<b><i>FY 2012 Plans:</i></b> Efforts will be transferred to a new Operational Energy Plans & Programs Program Element in FY 2012.			
<b>Accomplishments/Planned Programs Subtotals</b>		1.540	1.493
<b>C. Other Program Funding Summary (\$ in Millions)</b> N/A			
<b>D. Acquisition Strategy</b> N/A			
<b>E. Performance Metrics</b> N/A			