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**Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army** **DATE:** February 2011

<b>APPROPRIATION/BUDGET ACTIVITY</b>				<b>R-1 ITEM NOMENCLATURE</b>							
2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				PE 0604609A: Smoke, Obscurant and Target Defeating Sys - Eng Dev							
<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	0.939	5.335	-	-	-	-	-	-	-	0.000	6.274
198: Target Defeating System	-	2.425	-	-	-	-	-	-	-	0.000	2.425
200: SMOKE/OBSCURANT SYSTEM	0.939	2.910	-	-	-	-	-	-	-	0.000	3.849

**Note**

Fiscal Year 2012: Program decrease to both Target Defeating System and Smoke/Obscurant System.

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

Project 0604609A supports the conducting of System Development and Demonstration (SDD) for the development and improvement of an array of obscurant systems to improve survivability of the combined armed forces, complement combined weapon systems, and enhance force effectiveness and combat power. This program element supports development of the Projected/Generated Obscuration Capability (PGOC), including the Screening Obscuration Module (SOM) initiatives. This program element supports critical management studies and analyses that are conducted on a continuing basis to ensure that engineering and manufacturing development efforts are targeted against the emerging threat. Program element supports the conduct of SDD in smoke and obscurant agents, munitions, and devices to improve the survivability of the combined armed forces, complement combined weapon systems, and enhance force effectiveness and combat power. U.S. Forces must be able to effectively neutralize and degrade energy weapon systems and electro-optical systems/smart weapons that operate in the full range of the electromagnetic spectrum. Improvements are sought across the entire multi-spectral range from visual through infrared (IR) and millimeter wavelengths (MMW) radar for incorporation into self-protection smoke systems. The smoke obscuration technologies supported by this program element enhance smoke systems as force multipliers. This program has no FY12 Base or OCO RDTE request.

<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	0.973	5.335	13.981	-	13.981
Current President's Budget	0.939	5.335	-	-	-
Total Adjustments	-0.034	-	-13.981	-	-13.981
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	-13.981	-	-13.981
• Other Adjustments 1	-0.034	-	-	-	-

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APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604609A: Smoke, Obscurant and Target Defeating Sys - Eng Dev				PROJECT 198: Target Defeating System							
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				
198: Target Defeating System	-	2.425	-	-	-	-	-	-	-	0.000	2.425				
Quantity of RDT&E Articles															
A. Mission Description and Budget Item Justification															
Project supports the development and improvement of an array of obscurant systems to improve survivability of the combined armed forces, complement combined weapon systems, and enhance force effectiveness and combat power. This program element supports development of the Projected/Generated Obscuration Capability (PGOC), including the Screening Obscuration Module (SOM) initiatives. SOM is a small smoke generator that degrades the visual through near infrared portion of the Electro-Magnetic Spectrum. PGOC will integrate an obscuration generator and grenade launcher(s) onto an unmanned platform to provide the capability of obscuring the Visual/IR spectrum.															
This program element supports critical management studies and analyses that are conducted on a continuing basis to ensure that engineering and manufacturing development efforts are targeted against the emerging threat. US Forces must be able to effectively neutralize and degrade energy weapon systems and electro-optical systems/smart weapons that operate in the full range of the electromagnetic spectrum. Improvements are sought across the entire multi-spectral range from visual through infrared (IR) and millimeter wavelengths (MMW) radar for incorporation into self-protection smoke systems. This program has no FY12 Base or OCO RDTE request.															
PGOC Milestone B scheduled for 4Q FY2012. During POM 13-17, program will request BA4, Smoke, Obscurant (E79) funds in FY2013 and FY2014 be reprogrammed to BA5 to support efforts following Milestone B.															
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2010	FY 2011	FY 2012					
Title: Modeling, simulation, and toxicology effort.  Articles:  Description: Modeling, simulation, and toxicology effort.  FY 2011 Plans: Modeling, simulation, and toxicology effort.								-	0.625 0	-					
Title: PGOC development.  Articles:  Description: PGOC development.  FY 2011 Plans:								-	1.800 0	-					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army							<b>DATE:</b> February 2011				
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 5: <i>Development &amp; Demonstration (SDD)</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0604609A: <i>Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>			<b>PROJECT</b> 198: <i>Target Defeating System</i>				
<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>											
							<b>FY 2010</b>	<b>FY 2011</b>	<b>FY 2012</b>		
PGOC development.											
<b>Accomplishments/Planned Programs Subtotals</b>							-	2.425	-		
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</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>
• RDT&E, BA4: <i>RDT&amp;E, BA4, PE 0603627A, Project E79 Smoke, Obscurant and Target Defeating Sys - Adv Dev</i>	4.894	2.425	9.501		9.501		3.828			0.000	25.237
• RDT&E, BA5: <i>RDT&amp;E, BA5, PE 0604609A, Project 200 Smoke, Obscurant and Target Defeating Sys - Eng Dev</i>	0.973	2.910								0.000	3.883
<b>D. Acquisition Strategy</b> Acquisition Strategy: Development of SOD, PGOC and SOM systems to include design, construction, modeling and testing of prototypes.  SOD acquisition strategy follows an evolutionary strategy with two increments. The first increment, SOD-Visual-restricted, provides visual only screening in a restricted environment, such as the inside of a building. The second increment, SOD-Bi-Spectral, will provide visual through far-infrared screening in all environments.  PGOC acquisition strategy follows an evolutionary strategy with two increments. The first increment will integrate an obscuration generator and grenade launcher(s) onto an unmanned platform to provide the capability of obscuring the Visual/IR spectrum. The second increment will add the capability of obscuring the Millimeter Wave (MMW) spectrum to the obscuration generator. PGOC Milestone A was approved 2Q FY2011. PGOC Milestone B is scheduled for 4Q FY2012. PGOC Milestone C is scheduled for 4Q FY2014.  SOM acquisition strategy is to develop a small smoke generator that degrades the visual through near infrared portion of the Electro-Magnetic Spectrum. SOM Milestone B is scheduled for 4Q FY2012. SOM Milestone C is scheduled for 4Q FY2015.											
<b>E. Performance Metrics</b> Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.											

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APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604609A: Smoke, Obscurant and Target Defeating Sys - Eng Dev				PROJECT 200: SMOKE/OBSCURANT SYSTEM			
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
200: SMOKE/OBSCURANT SYSTEM	0.939	2.910	-	-	-	-	-	-	-	0.000	3.849
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
<p>Project supports the development and improvement of an array of obscurant systems to improve survivability of the combined armed forces, complement combined weapon systems, and enhance force effectiveness and combat power. This program element supports development of the Projected/Generated Obscuration Capability (PGOC), including the Screening Obscuration Module (SOM) initiatives. SOM is a small smoke generator that degrades the visual through near infrared portion of the Electro-Magnetic Spectrum. PGOC will integrate an obscuration generator and grenade launcher(s) onto an unmanned platform to provide the capability of obscuring the Visual/IR spectrum.</p> <p>This program element supports critical management studies and analyses that are conducted on a continuing basis to ensure that engineering and manufacturing development efforts are targeted against the emerging threat. US Forces must be able to effectively neutralize and degrade energy weapon systems and electro-optical systems/smart weapons that operate in the full range of the electromagnetic spectrum. Improvements are sought across the entire multi-spectral range from visual through infrared (IR) and millimeter wavelengths (MMW) radar for incorporation into self-protection smoke systems. This program has no FY12 Base or OCO RDTE request.</p> <p>PGOC Milestone B scheduled for 4Q FY2012. During POM 13-17, program will request BA4, Smoke, Obscurant (E79) funds in FY2013 and FY2014 be reprogrammed to BA5 to support efforts following Milestone B.</p>											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2010	FY 2011	FY 2012	
Title: Prepare and conduct MDDR and Milestone A (PGOC).  Articles:  Description: Prepare and conduct MDDR and Milestone A (PGOC).  FY 2010 Accomplishments: Prepare and conduct MDDR and Milestone A (PGOC).								0.939	-	-	
								0			
Title: PGOC development.  Articles:  Description: PGOC development.  FY 2011 Plans:								-	2.910	-	
									0		

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APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604609A: Smoke, Obscurant and Target Defeating Sys - Eng Dev				PROJECT 200: SMOKE/OBSCURANT SYSTEM				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)										FY 2010	FY 2011	FY 2012
PGOC development.												
Accomplishments/Planned Programs Subtotals										0.939	2.910	-
C. Other Program Funding Summary (\$ in Millions)												
Line Item	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	
• 0603627: Smoke, Obscurant and Target Defeating Sys - Adv Dev	4.894	2.425	10.300		10.300		4.000			0.000	26.519	
• 0604609: Smoke and Oscurant and Target Defeating Sys - Eng Dev		2.425								0.000	2.425	
D. Acquisition Strategy												
Acquisition Strategy: Development of SOD, PGOC and SOM systems to include design, construction, modeling and testing of prototypes.												
SOD acquisition strategy follows an evolutionary strategy with two increments. The first increment, SOD-Visual-restricted, provides visual only screening in a restricted environment, such as the inside of a building. The second increment, SOD-Bi-Spectral, will provide visual through far-infrared screening in all environments.												
PGOC acquisition strategy follows an evolutionary strategy with two increments. The first increment will integrate an obscuration generator and grenade launcher(s) onto an unmanned platform to provide the capability of obscuring the Visual/IR spectrum. The second increment will add the capability of obscuring the Millimeter Wave (MMW) spectrum to the obscuration generator. PGOC Milestone A was approved 2Q FY2011. PGOC Milestone B is scheduled for 4Q FY2012. PGOC Milestone C is scheduled for 4Q FY2014.												
SOM acquisition strategy is to develop a small smoke generator that degrades the visual through near infrared portion of the Electro-Magnetic Spectrum. SOM Milestone B is scheduled for 4Q FY2012. SOM Milestone C is scheduled for 4Q FY2015.												
E. Performance Metrics												
Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.												

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