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

## APPROPRIATION/BUDGET ACTIVITY

2040: *Research, Development, Test & Evaluation, Army*  
BA 5: *Development & Demonstration (SDD)*

## R-1 ITEM NOMENCLATURE

PE 0604802A: *Weapons and Munitions - Eng Dev*

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
Total Program Element	99.626	24.345	13.828	-	13.828	14.424	19.107	14.184	14.351	Continuing	Continuing
613: <i>MORTAR SYSTEMS</i>	12.830	-	-	-	-	-	-	-	-	0.000	12.830
AS5: <i>Artillery Munitions Engineering Development</i>	1.592	-	-	-	-	-	-	-	-	0.000	1.592
S23: <i>SURF LNCH ADV MED RNG AIR-TO-AIR MSL (SLAMRAAM)</i>	56.051	-	-	-	-	-	-	-	-	Continuing	Continuing
S36: <i>PRECISION GUIDANCE KIT</i>	29.153	24.345	13.828	-	13.828	14.424	19.107	14.184	14.351	Continuing	Continuing

## Note

Change Summary Explanation:

FY 2012: Decrease of \$10.280 million reflects total funding requirement to execute Precision Guidance Kit program plan.

## A. Mission Description and Budget Item Justification

This program element funds multiple efforts for engineering development of weapons and munitions systems.

Project 613: Accelerated Precision Mortar Initiative (APMI), XM395 is a GPS guided 120mm mortar cartridge that will be compatible with all Army 120mm mortar systems in Afghanistan. The requirement for precision mortar capability resulted from an urgent operational need for highly transportable, all weather, rapidly responsive, precise, indirect fires to support widely dispersed combat outposts and operations at the lowest tactical echelons to meet an Operational Needs Statement (ONS) from Afghanistan. APMI will provide a precision 120mm mortar capability that has accuracy within 10 meter Circular Error Probable (CEP).

Mortar Anti-Personnel Anti-Materiel (MAPAM), XM1061 is a 60mm enhanced fragmentation mortar program that provides 81mm effectiveness in a 60mm configuration. FY 2010 Congressional funds provide support for analysis of XM1143 81mm MAPAM and finalizing the design, testing, and qualification of XM1061. The program is in the final stages of development and Type Classification will commence in March 2011.

Project AS5: FY10 funds Lightweight Multi-Functional Material Technology (LMFMT), a materials development program for ammunition containers. It includes the use of advanced composite and non-composite materials in developing the design of mortar containers and barrier applications. The materials development program investigates potential applications in other areas that would require multifunctional capability.

Project S23: The Surface Launched Advanced Medium Range Air-To-Air Missile (SLAMRAAM), is the initial kinetic energy component of Integrated Air & Missile Defense (IAMD), an Air and Missile Defense (AMD) Future Force system. SLAMRAAM's force protection mission is to engage the low-altitude aerial threats out to 18km.

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<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 0604802A: <i>Weapons and Munitions - Eng Dev</i>
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Project S36: This program funds engineering development of precision guidance systems applicable to Indirect Fire artillery weapon systems. This includes the Precision Guidance Kit (PGK) which is a Global Positioning Guidance Kit with fuzing functions. PGK will improve the accuracy of existing artillery ammunition by correcting the trajectory of projectiles to their designated target location. Precision guidance systems will effectively reduce target delivery error reducing the number of rounds required to conduct a fire mission. This capability will benefit existing indirect fire systems.

<b>B. Program Change Summary (\$ in Millions)</b>	<b><u>FY 2010</u></b>	<b><u>FY 2011</u></b>	<b><u>FY 2012 Base</u></b>	<b><u>FY 2012 OCO</u></b>	<b><u>FY 2012 Total</u></b>
Previous President's Budget	87.022	24.345	24.108	-	24.108
Current President's Budget	99.626	24.345	13.828	-	13.828
Total Adjustments	12.604	-	-10.280	-	-10.280
• Congressional General Reductions		-			
• Congressional Directed Reductions		-			
• Congressional Rescissions	-	-			
• Congressional Adds		-			
• Congressional Directed Transfers		-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments 1	12.604	-	-10.280	-	-10.280

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army									DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604802A: Weapons and Munitions - Eng Dev				PROJECT 613: MORTAR SYSTEMS				
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	
613: MORTAR SYSTEMS	12.830	-	-	-	-	-	-	-	-	0.000	12.830	
Quantity of RDT&E Articles												
A. Mission Description and Budget Item Justification												
Accelerated Precision Mortar Initiative (APMI), XM395 is a GPS guided 120mm mortar cartridge that will be compatible with all Army 120mm mortar systems in Afghanistan. The requirement for precision mortar capability resulted from an urgent operational need for highly transportable, all weather, rapidly responsive, precise, indirect fires to support widely dispersed combat outposts and operations at the lowest tactical echelons to meet an Operational Needs Statement (ONS) from Afghanistan. APMI will provide a precision 120mm mortar capability that has accuracy within 10 meter Circular Error Probable (CEP).												
Mortar Anti-Personnel Anti-Materiel (MAPAM), XM1061 is a 60mm enhanced fragmentation mortar program that provides 81mm effectiveness in a 60mm configuration. FY 2010 Congressional funds provide support for analysis of XM1143 81mm MAPAM and finalizing the design, testing, and qualification of XM1061. The program is in the final stages of development and Type Classification will commence in March 2011.												
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: APMI Phase II Test and Integration						Articles:	7.211 0	-	-	-	-	
Description: APMI Phase II Test and Integration												
FY 2010 Accomplishments: Perform qualification test and integrate with Double V Hull (DVH) Stryker mortar carrier to achieve Urgent Material Release.												
Title: APMI Engineering and Management Support						Articles:	2.419 0	-	-	-	-	
Description: APMI Engineering and Management Support												
FY 2010 Accomplishments: Funds provide support for Engineering team and management of APMI program												
Title: MAPAM Development and Testing						Articles:	2.300 0	-	-	-	-	
Description: MAPAM Development and Testing												

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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 0604802A: <i>Weapons and Munitions - Eng Dev</i>		<b>PROJECT</b> 613: <i>MORTAR SYSTEMS</i>		

  

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</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><i>FY 2010 Accomplishments:</i></b> Design, Develop and Test of 81mm MAPAM  <b><i>Title:</i></b> MAPAM Engineering and Management Support  <b><i>Description:</i></b> MAPAM Engineering and Management Support  <b><i>FY 2010 Accomplishments:</i></b> APMI Engineering and Management Support	0.900 0	-	-	-	-
<b>Accomplishments/Planned Programs Subtotals</b>	12.830	-	-	-	-

  

<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>
• CTG, MORTAR, 120MM, HE GUIDED, XM39: <i>CTG, MORTAR, 120MM, HE GUIDED, XM395 (E25511)</i>	14.600	98.623	0.000	24.140	24.140					0.000	137.363

  

<b>D. Acquisition Strategy</b>
<p>The acquisition strategy for Accelerated Precision Mortar Initiative (APMI) was approved by the Milestone Decision Authority (MDA) on 5 January 2010 to meet the Operational Needs Statement (ONS) for a 120mm precision guided mortar round. APMI cartridges will be developed and produced by an industry partner. A DoD Ordnance Technology Consortium (DOTC) competitive development phase (Phase I) was awarded as a Firm Fixed Price (FFP) and subsequently down selected to a single producer. A follow-on Government safety qualification phase (Phase II) was awarded as a Cost Plus Incentive Fee (CPIF) and FFP using other transaction authority through DOTC to complete Urgent Material Release (UMR) qualification for the XM395 cartridge. The base production contract is a FFP for 1,364 All-Up Rounds (AURs). Follow-on production options will be awarded in FY2011 to fulfill the ONS requirement of 5,480 AURs. The first projected delivery to theatre will be in 2Q FY2011.</p>

  

<b>E. Performance Metrics</b>
<p>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.</p>

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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 0604802A: <i>Weapons and Munitions - Eng Dev</i>				<b>PROJECT</b> AS5: <i>Artillery Munitions Engineering Development</i>			
<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>
AS5: <i>Artillery Munitions Engineering Development</i>	1.592	-	-	-	-	-	-	-	-	0.000	1.592
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**  
 FY10 funds Lightweight Multi-Functional Material Technology (LMFMT), a materials development program for Ammunition containers. It includes the use of advanced composite and non-composite materials in developing the design of mortar containers and barrier applications. The materials development program investigates potential applications in other areas that would require multifunctional capability.

<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</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>Title:</b> Lightweight Multi-Functional Material Technology (LMFMT) Engineering Support  <div style="text-align: right;"><b>Articles:</b></div> <b>Description:</b> Funding is provided for the following effort  <b>FY 2010 Accomplishments:</b> Lightweight Multi-Functional Material Technology (LMFMT) Engineering Support	0.192 0	-	-	-	-
<b>Title:</b> LMFMT Material Development, Design and Testing  <div style="text-align: right;"><b>Articles:</b></div> <b>Description:</b> Funding is provided for the following effort  <b>FY 2010 Accomplishments:</b> LMFMT Material Development, Design and Testing	1.400 0	-	-	-	-
<b>Accomplishments/Planned Programs Subtotals</b>	1.592	-	-	-	-

**C. Other Program Funding Summary (\$ in Millions)**  
 N/A

**D. Acquisition Strategy**  
 The Lightweight Multi-Functional Material Technology (LMFMT) Engineering and Manufacturing Development (EMD) contract was awarded as a Sole Source to Frontier Performance Polymers in FY10.

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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 0604802A: <i>Weapons and Munitions - Eng Dev</i>	<b>PROJECT</b> AS5: <i>Artillery Munitions Engineering Development</i>

**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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604802A: Weapons and Munitions - Eng Dev				PROJECT S23: SURF LNCH ADV MED RNG AIR-TO-AIR MSL (SLAMRAAM)			
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
S23: SURF LNCH ADV MED RNG AIR-TO-AIR MSL (SLAMRAAM)	56.051	-	-	-	-	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles											
Note SLAMRAAM has established a new Program Element(PE)0605455A for its RDTE program (Project S35) begining in FY11.											
A. Mission Description and Budget Item Justification Surface Launched Advanced Medium Range Air-To-Air Missile (SLAMRAAM) is an air defense system included in the Army Integrated Air & Missile Defense (IAMD) architecture. SLAMRAAM consists of launcher platforms employing the proven AIM-120-C7 Advanced Medium Range Air-to-Air Missile (AMRAAM); Integrated Fire Control Station (IFCS) command, control, and communications platforms; and Improved Sentinel Radars. SLAMRAAM is a day or night, adverse weather, non-line-of-sight system that counters cruise missiles (CM), unmanned aerial vehicle (UAV), fixed wing and rotary wing threats. SLAMRAAM is mobile and armored which allows it to operate in various combat situations to protect maneuver forces and strategic assets.											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Product Development  Articles:  Description: This element includes the contractor and government hardware and software development costs, labs and center, and government product office direct support costs.  FY 2010 Accomplishments: Continue integration of the launcher and Integrated Fire Control Station (IBCS) on the FMTV platform.							33.109 0	-	-	-	-
Title: Government System Test and Evaluation  Articles:  Description: This element includes costs for the contractor and government system test and evaluation (STE). Government and contractor STE program in support of the Engineering and Manufacturing Development (EMD) phase.  FY 2010 Accomplishments: This is in execution of developmental testing and preparation of operational testing.							7.241 0	-	-	-	-
Title: System Engineering/ Program Management (SE/PM)							15.701	-	-	-	-

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B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)								FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Articles: 0								0				
Description: This element includes costs for government indirect costs. The costs for SBIR/STRRs is also included in this element.												
FY 2010 Accomplishments: Provide government oversight of Engineering and Manufacturing Development activities.												
Accomplishments/Planned Programs Subtotals								56.051	-	-	-	-
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	
• PE 0604869A: Proj M06, Patriot/MEADS Combined Aggregate Program (CAP)	570.831	467.139	406.605		406.605					Continuing	Continuing	
• SSN C53101: MSE Missile			74.953		74.953		532.540	487.049	560.099	Continuing	Continuing	
• SSN C53201: PATRIOT/MEADS GSE												
• PE 0102419A: Proj E55, JLENS	317.132	372.493	344.655		344.655		58.124	19.717	19.726	Continuing	Continuing	
• SSN BZ0525: JLENS Production							501.459	454.966	416.888	Continuing	Continuing	
• PE 0604802A: Proj S23, SLAMRAAM	56.441									0.000	56.441	
• PE 0605455A: Proj S35, SLAMRAAM		23.700	19.931		19.931					Continuing	Continuing	
• SSN C81002: SLAMRAAM Launcher		116.792								Continuing	Continuing	
• PE 0603305A: Proj TR7, Indirect Fire Protection Capability II - Intercept		4.296	21.126		21.126		89.021	92.999	142.738	Continuing	Continuing	
• SSN WK5053: FAAD GBS		91.467	7.958		7.958					Continuing	Continuing	
• PE 0603327A: Proj S34, AMD System of System Engineering and Integration	164.719									Continuing	Continuing	

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2012 Army	<b>DATE:</b> February 2011
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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)	<b>R-1 ITEM NOMENCLATURE</b> PE 0604802A: Weapons and Munitions - Eng Dev	<b>PROJECT</b> S23: SURF LNCH ADV MED RNG AIR-TO-AIR MSL (SLAMRAAM)
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**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
• PE 0605457A: Project S40, Army Integrated Air and Missile Defense (AIAMD)		251.124	270.607		270.607		346.341	298.869	275.651	Continuing	Continuing
• SSN BZ5075: ARMY IAMD BATTLE COMMAND SYSTEM (IBCS)							23.587	100.560	256.855	Continuing	Continuing
• PE 0605456A: Project PA3, PAC-3/MSE Missile		62.500	88.993		88.993		68.938	63.468	64.215	Continuing	Continuing
• PE 0208053: Proj 635 JOINT TACT GRD STATIONO-P3I (MIP)	13.189	12.403	27.630		27.630		14.109	7.912	8.039	Continuing	Continuing
• SSN BZ8401: Joint Tactical Ground Station (JTAGS)	6.682	9.279	1.199		1.199		9.740	4.432	4.496	Continuing	Continuing
• PE 0604820A: Proj E10, SENTINEL			2.890		2.890		1.983	1.968	2.937	Continuing	Continuing

**D. Acquisition Strategy**

System Development and Demonstration (SDD) contract was awarded in 2nd Quarter FY04 and completed in Oct 09. The SLAMRAAM program has been restructured to a new platform, the FMTV. Furthermore, SLAMRAAM has a new Program Element for RDTE beginning in FY11. The PE Number is 0605455A (S35).

**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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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army								DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604802A: Weapons and Munitions - Eng Dev				PROJECT S36: PRECISION GUIDANCE KIT			
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
S36: PRECISION GUIDANCE KIT	29.153	24.345	13.828	-	13.828	14.424	19.107	14.184	14.351	Continuing	Continuing
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
This program funds engineering development of precision guidance systems applicable to Indirect Fire artillery weapon systems. This includes the Precision Guidance Kit (PGK) which is a Global Positioning Guidance Kit with fuzing functions. PGK will improve the accuracy of existing artillery ammunition by correcting the trajectory of projectiles to their designated target location. Precision guidance systems will effectively reduce target delivery error reducing the number of rounds required to conduct a fire mission. This capability will benefit existing indirect fire systems.											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
<b>Title:</b> Contractor Engineering and Manufacturing Development  <b>Articles:</b>  <b>Description:</b> Contractor Engineering and Manufacturing Development  <b>FY 2010 Accomplishments:</b> Contractor Engineering and Manufacturing Development  <b>FY 2011 Plans:</b> Contractor Engineering and Manufacturing Development  <b>FY 2012 Base Plans:</b> Contractor Engineering and Manufacturing Development							16.737	15.954	4.432	-	4.432
							0	0			
<b>Title:</b> Government Engineering Support and Platform Integration  <b>Articles:</b>  <b>Description:</b> Continue Engineering and Intergation Support  <b>FY 2010 Accomplishments:</b> Continue Engineering and Intergation Support  <b>FY 2011 Plans:</b> Continue Engineering and Intergation Support  <b>FY 2012 Base Plans:</b>							8.606	3.941	7.463	-	7.463
							0	0			

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<b>B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)</b>	FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Continue Engineering and Intergation Support					
<b>Title:</b> Continue Development/Operational Testing  <div style="text-align: right;"><b>Articles:</b></div> <b>Description:</b> Continue Development/Operational Test  <b>FY 2010 Accomplishments:</b> Continue Development/Operational Test  <b>FY 2011 Plans:</b> Continue Development/Operational Test  <b>FY 2012 Base Plans:</b> Continue Development/Operational Test	2.860 0	4.450 0	1.933	-	1.933
<b>Title:</b> Small Business Innovative Research/Small Business Technology Transfer Programs  <div style="text-align: right;"><b>Articles:</b></div> <b>Description:</b> SBIR/STTR  <b>FY 2010 Accomplishments:</b> SBIR/STTR	0.950 0	-	-	-	-
<b>Accomplishments/Planned Programs Subtotals</b>	29.153	24.345	13.828	-	13.828

  

<b>C. Other Program Funding Summary (\$ in Millions)</b>											
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
• Precision Guidance Kit (PGK) E99250: <i>Procurment of Ammunition Army: Precision Guidance Kit (PGK) E99250</i>	29.609	25.047					61.409	53.222	54.110	Continuing	Continuing

  

<b>D. Acquisition Strategy</b>
The PGK program is using an incremental development approach to provide a combat capability to the Soldier as quickly as possible, and to deliver advanced capabilities at lower costs as technology matures. The Acquisition Strategy/Acquisition Plan for the PGK Increment 1 program was approved by the Milestone Decision

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Exhibit R-2A, RDT&E Project Justification: PB 2012 Army		DATE: 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 0604802A: <i>Weapons and Munitions - Eng Dev</i>	<b>PROJECT</b> S36: <i>PRECISION GUIDANCE KIT</i>
<p>Authority (MDA) on 20 October 2005, subsequently revised and approved on 5 March 2009. Alliant Techsystems (ATK) was competitively awarded the Engineering and Manufacturing Development (EMD) program in May 2007 following a Technology Development Demonstration. Approval to initiate the procurement of First Article/Production Verification Test (FAT/PVT) hardware occurred at In-Process Review (IPR) 3QFY09. The FAT/PVT hardware were procured in 3QFY10, however, milestone C/Type Classification Limited Procurement was delayed due to reliability growth challenges that required failure and root cause analysis that led to the implementation of corrective action plan. As a result, milestone C is planned for 1Q FY2013 and Initial Operational Capability (IOC) of Increment 1 is scheduled for 2Q FY2014. Following the Increment 1 MS C decision, a follow-on development effort will be initiated to make PGK compatible with future high explosive projectiles that contain an Insensitive Munition fill.</p>		
<b>E. Performance Metrics</b> <p>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.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army										DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604802A: Weapons and Munitions - Eng Dev				PROJECT S36: PRECISION GUIDANCE KIT					
Management Services (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Management Support	Various	Camber:Mt Arlington, NJ	1.144	0.100		-		-		-	Continuing	Continuing	Continuing
Miscellaneous Support Contract	Various	MITRE Corporation:Fort Monmouth, NJ	0.450	0.150		-		-		-	Continuing	Continuing	Continuing
Analysis Support	MIPR	Command and Control Directorate:Ft Monmouth, NJ	0.225	0.075		-		-		-	Continuing	Continuing	Continuing
SBIR/STTR	SS/FP	PM CAS:Picatinny	-	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			1.819	0.325		-		-		-			
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
PGK TD Contract	C/CPIF	Alliant Techsystems (ATK):Plymouth, MN	5.279	-		-		-		-	0.000	5.279	5.279
PGK TD Contract	C/CPIF	BAE:Minneapolis, MN	3.103	-		-		-		-	0.000	3.103	3.103
Soft Recovery Modules	MIPR	SubSystems Technology:Rosslyn, VA	0.116	-		-		-		-	0.000	0.116	0.116
PGK EMD & Phase 1-2 (Reliability Failure/Root Cause Analysis)	C/CPAF	Alliant Techsystems (ATK):Plymouth, MN	40.715	-		-		-		-	Continuing	Continuing	Continuing
PGK EMD Contract - Award Fee	C/CPAF	Alliant Techsystems (ATK):Plymouth, MN	0.235	-		-		-		-	Continuing	Continuing	Continuing
PGK Contracts - Increment 2	Various	TBD:TBD	-	15.954		-		-		-	Continuing	Continuing	Continuing
M107 Metal Parts	MIPR	US ARMY Field Support Command:Rock Island, IL	0.079	-		-		-		-	0.000	0.079	0.079
PGK EMD - Phase 3a & 5	C/FFP	TBD:TBD	-	-		4.432		-		4.432	Continuing	Continuing	Continuing
PGK IM	C/FFP	TBD:TBD	-	-		-		-		-	23.524	23.524	23.524

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army											DATE: February 2011			
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604802A: Weapons and Munitions - Eng Dev				PROJECT S36: PRECISION GUIDANCE KIT						
Product Development (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Subtotal			49.527	15.954		4.432		-		4.432				
Support (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
PM Office	PO	PM CAS:Picatinny, NJ	5.847	0.716		1.470		-		1.470	Continuing	Continuing	Continuing	
Platform Integration	MIPR	Various:Various	-	0.500		-		-		-	Continuing	Continuing	Continuing	
Government Engineering Support	PO	ARDEC:Picatinny, NJ	12.727	2.400		5.933		-		5.933	Continuing	Continuing	Continuing	
Subtotal			18.574	3.616		7.403		-		7.403				
Test and Evaluation (\$ in Millions)				FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total				
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract	
Component Air Gun/Railgun Testing	PO	ARDEC:Picatinny, NJ	0.317	-		-		-		-	Continuing	Continuing	Continuing	
System Development Testing Increment 1	MIPR	Yuma Proving Ground:Yuma, AZ	5.178	-		1.993		-		1.993	Continuing	Continuing	Continuing	
Other Development Testing	Various	Various:Various	0.139	-		-		-		-	Continuing	Continuing	Continuing	
System Development Competitive Prototype Testing Increment 2	MIPR	TBD:TBD	-	0.500		-		-		-	Continuing	Continuing	Continuing	
Initial Operational Test & Evaluation - Increment 1	MIPR	Yuma Proving Ground:Yuma, AZ	-	3.500		-		-		-	Continuing	Continuing	Continuing	
Cold Region Testing - Increment 1	MIPR	Cold Region Test Center:Ft Greely, AK	-	0.450		-		-		-	Continuing	Continuing	Continuing	
Subtotal			5.634	4.450		1.993		-		1.993				

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2012 Army								DATE: February 2011							
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 5: Development & Demonstration (SDD)				R-1 ITEM NOMENCLATURE PE 0604802A: Weapons and Munitions - Eng Dev				PROJECT S36: PRECISION GUIDANCE KIT							
				Total Prior Years Cost		FY 2011		FY 2012 Base		FY 2012 OCO		FY 2012 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals				75.554		24.345		13.828		-		13.828			

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</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 0604802A: <i>Weapons and Munitions - Eng Dev</i>		<b>PROJECT</b> S36: <i>PRECISION GUIDANCE KIT</i>	

	FY 2010				FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Insensitive Munitions Development																												
Milestone C - Type Classification Limited Procurement																												
First Article Test (FAT) / Production Verification Test (PVT) Hardware																												
First Article Test (FAT) / Production Verification Test (PVT) Assembly & Test																												
Initial Operational Test and Evaluation (IOT&E)																												
Type Classification Standard / Full Materiel Release																												
IOC																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</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 0604802A: <i>Weapons and Munitions - Eng Dev</i>	<b>PROJECT</b> S36: <i>PRECISION GUIDANCE KIT</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Insensitive Munitions Development	2	2013	3	2016
Milestone C - Type Classification Limited Procurement	4	2012	4	2012
First Article Test (FAT) / Production Verification Test (PVT) Hardware	2	2010	2	2010
First Article Test (FAT) / Production Verification Test (PVT) Assembly & Test	1	2013	1	2013
Initial Operational Test and Evaluation (IOT&E)	2	2013	2	2013
Type Classification Standard / Full Materiel Release	4	2013	4	2013
IOC	1	2014	1	2014

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