

**UNCLASSIFIED**

<b>Exhibit R-2, RDT&amp;E Budget Item 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 0604823A: <i>FIREFINDER</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>
Total Program Element	19.534	24.736	10.358	-	10.358	30.977	41.223	37.431	44.230	Continuing	Continuing
L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>	0.664	5.969	6.975	-	6.975	3.142	-	-	-	0.000	16.750
L87: <i>LONG RANGE COUNTERFIRE RADAR</i>	-	0.084	-	-	-	-	-	-	-	0.000	0.084
L88: <i>ENHANCED AN/TPQ 36</i>	18.870	18.683	3.383	-	3.383	27.835	41.223	37.431	44.230	Continuing	Continuing

**Note**

FY12 funding supports EQ-36 and LCMR development efforts.

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

This Program funds design, development and test of primary target acquisition and counterfire radars to automatically detect, locate and classify hostile indirect fire weapons (mortars, artillery, and rockets). This PE directly supports the prioritization, tracking, and locating of targets, and dissemination of that information for simultaneous attack of multiple threats. It provides the Warfighter with continuous and responsive counterfire target acquisition systems for all types and phases of military operations. Project L86, Lightweight Counter Mortar Radar, Version AN/TPQ-50 provides 360 degree coverage and is used to detect, locate and report hostile locations of enemy indirect firing systems. Project L88, Enhanced AN/TPQ-36 (EQ-36), is a highly mobile radar system that will leverage the latest in technology design to accelerate technology infusion and increase range while improving False Alarm Rate, reducing obsolescence and increasing reliability. EQ-36 will provide 90 degree coverage and extended range, with an incremental development to increase detection capability to 360 degrees.

**UNCLASSIFIED**

**UNCLASSIFIED**

Exhibit R-2, RDT&E Budget Item Justification: PB 2012 Army				DATE: February 2011		
APPROPRIATION/BUDGET ACTIVITY		R-1 ITEM NOMENCLATURE				
2040: Research, Development, Test & Evaluation, Army		PE 0604823A: FIREFINDER				
BA 5: Development & Demonstration (SDD)						
B. Program Change Summary (\$ in Millions)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Previous President's Budget		20.333	24.820	-	-	-
Current President's Budget		19.534	24.736	10.358	-	10.358
Total Adjustments		-0.799	-0.084	10.358	-	10.358
• Congressional General Reductions			-			
• Congressional Directed Reductions			-			
• Congressional Rescissions		-	-			
• Congressional Adds			-			
• Congressional Directed Transfers			-			
• Reprogrammings		-	-			
• SBIR/STTR Transfer		-	-			
• Adjustments to Budget Years		-	-	10.358	-	10.358
• OMNIBUS Reprogramming		-0.799	-	-	-	-
• Other Adjustments 2		-	-0.084	-	-	-

**UNCLASSIFIED**

**UNCLASSIFIED**

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 0604823A: FIREFINDER				PROJECT L86: LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)			
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
L86: LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)	0.664	5.969	6.975	-	6.975	3.142	-	-	-	0.000	16.750
Quantity of RDT&E Articles											
A. Mission Description and Budget Item Justification											
The AN/TPQ-50 (formerly known as AN/TPQ-48(V)3) Lightweight Counter Mortar Radar (LCMR) is a digitally connected, day/night mortar, cannon, and rocket locating system. It is used to detect, locate, and report enemy indirect firing systems and will also provide observed fires from friendly units. AN/TPQ-50 will also be deployed as part of a System of Systems for Counter-Rockets, Artillery, and Mortars (C-RAM). It will provide data to the Forward Area Air Defense Command and Control (FAADC2) node to provide a sense and warn force protection capability for fixed and semi-fixed sites. It will provide 360 degrees of azimuth coverage and cover a range of 500 meters to 10 kilometers. The AN/TPQ-50 will provide twice the detection range and twice the targeting accuracy of the existing AN/TPQ-48(V)2 Quick Reaction Capability (QRC) currently fielded in support of Operation New Dawn(OND) and Operation Enduring Freedom (OEF).											
FY12 funds support the development effort and prototype refurbishment of AN/TPQ-50 Program of Record (POR); development testing; and Initial Operational Test and Evaluation (IOT&E).											
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)							FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Title: Rocket Detection  Articles:  Description: Funding is provided for the following effort  FY 2011 Plans: Develoment effort for 107mm rocket detection in low trajectories to include associated PMO support costs.							-	2.870 0	-	-	-
Title: Radar Networking  Articles:  Description: Funding is provided for the following effort  FY 2011 Plans: Initial development effort for Radar Networking to include associated Program Management Office (PMO) support costs.							-	1.302 0	-	-	-
Title: Test Support  Articles:							0.102 0	1.797 0	2.693	-	2.693

**UNCLASSIFIED**

**UNCLASSIFIED**

<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 0604823A: <i>FIREFINDER</i>			<b>PROJECT</b> L86: <i>LIGHTWEIGHT COUNTER MORTAR</i> RADAR (LCMR)					
<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>Description:</b> Funding is provided for the following effort											
<b>FY 2010 Accomplishments:</b> Developmental Testing and associated PMO support costs.											
<b>FY 2011 Plans:</b> Test activities to support Initial Operational Test & Evaluation (IOT&E) and associated PMO support costs.											
<b>FY 2012 Base Plans:</b> Developmental Testing, Initial Operational Test & Evaluation (IOT&E), and associated PMO support costs.											
<b>Title:</b> AN/TPQ-50 Development							0.562	-	4.282	-	4.282
<b>Articles:</b>							0				
<b>Description:</b> Funding is provided for the following effort											
<b>FY 2010 Accomplishments:</b> Development of the AN/TPQ-50 Program of Record											
<b>FY 2012 Base Plans:</b> Development of the AN/TPQ-50 Program of Record and the refurbishment of prototypes to include associated PMO costs											
<b>Accomplishments/Planned Programs Subtotals</b>							0.664	5.969	6.975	-	6.975
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012 Base</u>	<u>FY 2012 OCO</u>	<u>FY 2012 Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To Complete</u>	<u>Total Cost</u>
• SSN: B05201: SSN: B05201 Lightweight Counter Mortar Radar	91.303	57.980	33.810	54.100	87.910		65.161	59.359	50.173	Continuing	Continuing
<b>D. Acquisition Strategy</b>											
The AN/TPQ-50 Lightweight Counter Mortar Radar (LCMR) is being developed to meet user Capabilities Production Document (CPD) requirements. Acquisition Strategy approval was obtained in May 2006. In September 2006, a sole source development contract was awarded to SRCTec, the developer and producer of the AN/TPQ-48(V)2 QRC LCMR. A Business Case Analysis (BCA) was accomplished in June 2010 which resulted in a Sole Source Acquisition Strategy decision.											

**UNCLASSIFIED**

**UNCLASSIFIED**

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 0604823A: <i>FIREFINDER</i>	<b>PROJECT</b> L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>
Government development testing (DT) and the Limited User Test (LUT) accomplished in FY10 identified limitation in the system that require re-work and additional testing through FY11 into FY12 to prepare for the Initial Operational Test and Evaluation (IOT&E) now scheduled for 3rd quarter FY12.		
<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.		

## UNCLASSIFIED

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 0604823A: FIREFINDER				PROJECT L86: LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)					
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
Program Management (Contractor)	Various	Various:Various	3.223	0.330		0.110		-		0.110	Continuing	Continuing	Continuing
Program Management	Various	PM Radars:Fort Monmouth NJ/ APG MD	0.884	0.100		0.110		-		0.110	Continuing	Continuing	Continuing
Program Management (Government Matrix)	Various	Various:Various	1.155	0.335		0.110		-		0.110	Continuing	Continuing	Continuing
Subtotal			5.262	0.765		0.330		-		0.330			
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
Primary Hardware Dev	Various	SRCTec, North:Syracuse, NY	37.697	-		4.182		-		4.182	Continuing	Continuing	Continuing
Systems Engineering Government	Various	CERDEC:Fort Monmouth, NJ	2.964	-		-		-		-	Continuing	Continuing	Continuing
107mm Rockets Detection	Various	SRCTec, North:Syracuse, NY	-	2.219		-		-		-	Continuing	Continuing	Continuing
Extended Range	Various	SRCTec, North:Syracuse, NY	-	-		-		-		-	Continuing	Continuing	Continuing
Radar Networking	Various	SRCTec, North:Syracuse, NY	-	1.188		-		-		-	Continuing	Continuing	Continuing
Common Front End (CFE)	Various	SRCTec, North:Syracuse, NY	-	-		-		-		-	Continuing	Continuing	Continuing
Systems Engineering Contractor	Various	Various:Various	4.051	-		-		-		-	Continuing	Continuing	Continuing
Radar Environmental Simulators (RES)	Various	Oakridge National Labs:Oakridge, TN	0.250	-		-		-		-	Continuing	Continuing	Continuing
Subtotal			44.962	3.407		4.182		-		4.182			

UNCLASSIFIED

**UNCLASSIFIED**

<b>Exhibit R-3, RDT&amp;E Project Cost Analysis:</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 0604823A: <i>FIREFINDER</i>				<b>PROJECT</b> L86: <i>LIGHTWEIGHT COUNTER MORTAR</i> RADAR (LCMR)						
<b>Support (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>				
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
Development Support (Government)	Various	Various:Various	0.774	-		-		-		-	Continuing	Continuing	Continuing	
<b>Subtotal</b>			0.774	-		-		-		-				
<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>				
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
Test Support (Contractor)	Various	SRCTec:Syracuse, NY	0.309	-		-		-		-	Continuing	Continuing	Continuing	
Limited User Test	Various	YUMA/WSMR:Arizona/ New Mexico	1.246	-		-		-		-	Continuing	Continuing	Continuing	
Follow-On Test Event (FOTE)	Various	YUMA/WSMR:Arizona/ New Mexico	0.690	-		-		-		-	Continuing	Continuing	Continuing	
Initial Operational Test & Evaluation (IOT&E)	Various	YUMA/WSMR:Arizona/ New Mexico	-	1.297		1.902		-		1.902	Continuing	Continuing	Continuing	
Developmental Test Operational Test (DT/OT)	Various	Yuma/WSMR:Arizona/ New Mexico	3.008	0.500		0.561		-		0.561	Continuing	Continuing	Continuing	
Test Support (Government)	Various	Various:Various	0.692	-		-		-		-	Continuing	Continuing	Continuing	
<b>Subtotal</b>			5.945	1.797		2.463		-		2.463				
			<b>Total Prior Years Cost</b>	<b>FY 2011</b>		<b>FY 2012 Base</b>		<b>FY 2012 OCO</b>		<b>FY 2012 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>	
<b>Project Cost Totals</b>			56.943	5.969		6.975		-		6.975				
<b>Remarks</b>														

**UNCLASSIFIED**

**UNCLASSIFIED**

<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 0604823A: <i>FIREFINDER</i>		<b>PROJECT</b> L86: <i>LIGHTWEIGHT COUNTER MORTAR</i> RADAR (LCMR)	

	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
Limited User Test																												
Milestone C																												
First Unit Equipped (FUE) (AN/TPQ-50																												
Full Rate Production Decision																												

**UNCLASSIFIED**



**UNCLASSIFIED**

<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 0604823A: <i>FIREFINDER</i>	<b>PROJECT</b> L86: <i>LIGHTWEIGHT COUNTER MORTAR</i> RADAR (LCMR)	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Limited User Test	2	2010	2	2010
Milestone C	2	2011	2	2011
First Unit Equipped (FUE) (AN/TPQ-50	1	2011	1	2011
Full Rate Production Decision	4	2012	4	2012

**UNCLASSIFIED**

**UNCLASSIFIED**

<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 0604823A: <i>FIREFINDER</i>				<b>PROJECT</b> L87: <i>LONG RANGE COUNTERFIRE RADAR</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>
L87: <i>LONG RANGE COUNTERFIRE RADAR</i>	-	0.084	-	-	-	-	-	-	-	0.000	0.084
Quantity of RDT&E Articles											

**A. Mission Description and Budget Item Justification**  
 No work is being done under this project. Funding will be reprogrammed to another project within this Program Element (PE) during the year of execution.

**B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)**

	<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> Program Management	-	0.084	-	-	-
<b>Articles:</b>		0			
<b>Description:</b> Funding for Program Management Support					
<b>FY 2011 Plans:</b> This will fund program management support					
<b>Accomplishments/Planned Programs Subtotals</b>	-	0.084	-	-	-

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

**D. Acquisition Strategy**  
 N/A

**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.

**UNCLASSIFIED**

**UNCLASSIFIED**

<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 0604823A: <i>FIREFINDER</i>				<b>PROJECT</b> L88: <i>ENHANCED AN/TPQ 36</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>
L88: <i>ENHANCED AN/TPQ 36</i>	18.870	18.683	3.383	-	3.383	27.835	41.223	37.431	44.230	Continuing	Continuing
Quantity of RDT&E Articles											

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

The Enhanced AN/TPQ-36 (EQ-36) is a highly mobile radar system designed to classify targets for automatic first-round location of mortar, artillery and rocket enemy fires and to provide observed fires from friendly units. The EQ-36 will provide 90 and 360 degree coverage against the entire threat set. This program will leverage the latest in technology design to provide increased range, reduced crew size, as well as increased reliability, availability, and maintainability. The EQ-36 will provide digital communications and be interoperable with future Battle Command Systems. Increment 2 will provide improved 360 degree capabilities against rocket and artillery with Integrated Fire Protection Capability (IFPC) interoperability and a quick disconnect capability for the 60kw generator.

FY12 funds completion of Limited User Test (LUT), and initiation of Pre-Planned Product Improvement (P3I) development for High Clutter Environment and Low Quadrant Elevation (QE) efforts.

<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> NRE Development and Test  <b>Articles:</b>  <b>Description:</b> Funding is provided for the following effort:  <b>FY 2010 Accomplishments:</b> Primary development and test of four (4) Enhanced AN/TPQ NRE Increment 1 systems, and associated Program Management support to meet the Army's counterfire requirements.	7.868 0	-	-	-	-
<b>Title:</b> Increment 2 Development and Test  <b>Articles:</b>  <b>Description:</b> Funding is provided for the following effort:  <b>FY 2010 Accomplishments:</b> Continue Increment 2 development, integration, test and test fixes to include associated PMO and support costs.  <b>FY 2011 Plans:</b>	4.594 0	11.557 0	-	-	-

**UNCLASSIFIED**

**UNCLASSIFIED**

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 0604823A: FIREFINDER	PROJECT L88: ENHANCED AN/TPQ 36				
B. Accomplishments/Planned Programs (\$ in Millions, Article Quantities in Each)		FY 2010	FY 2011	FY 2012 Base	FY 2012 OCO	FY 2012 Total
Complete Increment 2 development, integration, test and test fixes to include associated PMO and support costs.						
Title: Test Support  Articles:  Description: Funding is provided for the following effort  FY 2010 Accomplishments: Test activities to include Limited User Test (LUT)/Development Test (DT) and associated PMO support costs.  FY 2011 Plans: Test activities to include Limited User Test (LUT)/Development Test (DT) and associated PMO support costs.  FY 2012 Base Plans: Test activities to include Limited User Test (LUT)/Development Test (DT) and associated PMO support costs.		6.408 0	7.126 0	0.970	-	0.970
Title: Low Quadrant Elevation (QE) Shots  Description: Funding is provided for the following effort  FY 2012 Base Plans: Develop new algorithms to detect low QE shots and associated PMO support costs		-	-	1.364	-	1.364
Title: High Clutter Environment  Description: Funding is provided for the following effort  FY 2012 Base Plans: Tracking projectiles through a high clutter environment		-	-	1.049	-	1.049
Accomplishments/Planned Programs Subtotals		18.870	18.683	3.383	-	3.383

**UNCLASSIFIED**

**UNCLASSIFIED**

<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 0604823A: <i>FIREFINDER</i>	<b>PROJECT</b> L88: <i>ENHANCED AN/TPQ 36</i>	

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

<u>Line Item</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u> <u>Base</u>	<u>FY 2012</u> <u>OCO</u>	<u>FY 2012</u> <u>Total</u>	<u>FY 2013</u>	<u>FY 2014</u>	<u>FY 2015</u>	<u>FY 2016</u>	<u>Cost To</u> <u>Complete</u>	<u>Total Cost</u>
• B05310: <i>Enhanced AN/TPQ-36</i>	220.065	295.867	227.629	110.548	338.177		499.488	563.854	111.558	Continuing	Continuing

**D. Acquisition Strategy**

The Enhanced AN/TPQ-36 (EQ-36) leverages technology developed in the Multi-Mission Radar Advanced Technology Objective (ATO) program incorporating the latest antenna technology into the EQ-36. In order to field the EQ-36 capability to the Warfighter in the most expeditious manner with the least amount of risk, the EQ-36 will be produced in two increments based on two tiers of technical threshold requirements. Increment 1 capabilities are planned to be fielded as a replacement to the AN/TPQ-36 and AN/TPQ-37 radar systems. Increment 2 capabilities will provide increased performance over Increment 1 and will meet all of the user's threshold requirements. A contract was awarded in 4QFY06 based on full and open competition. A Limited Procurement Milestone C approval was received in July 2008 which supported use of OCO and Base budget funds to meet urgent operational requirements. An option for initial production units was exercised in July 08 in order to support an Operational Needs Statement (ONS). Additional systems were procured in FY10 to support additional theater requirements. An update to the Milestone C approval will be conducted and a follow-on production contract will be competitively awarded in FY11. The system will eventually replace all of the AN/TPQ-36 and AN/TPQ-37 legacy systems in the fleet. FY12 funding will initiate development for Pre-Planned Product Improvements (P3I) for High Clutter Environment and Low Quadrant Elevation efforts.

**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.

**UNCLASSIFIED**

**UNCLASSIFIED**

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 0604823A: FIREFINDER				PROJECT L88: ENHANCED AN/TPQ 36					
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
Program Management (Contractor)	TBD	Various:Various	1.982	-		0.139		-		0.139	Continuing	Continuing	Continuing
Program Management (Government)	TBD	Various:Various	0.702	-		0.176		-		0.176	Continuing	Continuing	Continuing
Program Management	TBD	PM NV/RSTA:Fort Monmouth, NJ	2.222	0.270		-		-		-	Continuing	Continuing	Continuing
Subtotal			4.906	0.270		0.315		-		0.315			
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
Primary Hardware Development	SS/FP	Lockheed Martin,;Syracuse, NY	158.892	8.907		-		-		-	Continuing	Continuing	0.000
Ancillary Equipment	TBD	Various:Various	3.571	-		-		-		-	Continuing	Continuing	0.000
Radar Environmental Simulators (RES)	SS/FP	Oakridge National Labs:Oakridge, TN	4.500	-		-		-		-	Continuing	Continuing	0.000
Low QE Shots	SS/FP	Lockheed Martin:Syracuse, NY	-	-		1.049		-		1.049	Continuing	Continuing	0.000
High Clutter Environment	SS/FP	Lockheed Martin:Syracuse, NY	-	-		1.049		-		1.049	Continuing	Continuing	0.000
Systems Engineering (Contractor)	TBD	Various:Various	4.231	0.550		-		-		-	Continuing	Continuing	0.000
Systems Engineering (Government)	Various	Various:Fort Monmouth, NJ	1.367	0.630		-		-		-	Continuing	Continuing	Continuing
Subtotal			172.561	10.087		2.098		-		2.098			

**UNCLASSIFIED**

**UNCLASSIFIED**

### Remarks

**UNCLASSIFIED**

<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 0604823A: <i>FIREFINDER</i>		<b>PROJECT</b> L88: <i>ENHANCED AN/TPQ 36</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
DT Increment 2																												
Limited User Test (LUT) #2																												
First Unit Equipped (FUE) - IP Systems																												
FY09/FY10 QRC Production																												
Milestone C Update																												
Competitive Production Efforts																												
Conduct Initial Operation Test and Evaluation (IOT&E)																												
Low QE Shots																												
High Clutter Environment																												
Future Radar Development Efforts																												

**UNCLASSIFIED**



**UNCLASSIFIED**

<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 0604823A: <i>FIREFINDER</i>	<b>PROJECT</b> L88: <i>ENHANCED AN/TPQ 36</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
DT Increment 2	1	2010	2	2011
Limited User Test (LUT) #2	2	2012	3	2012
First Unit Equipped (FUE) - IP Systems	1	2010	1	2010
FY09/FY10 QRC Production	1	2010	2	2012
Milestone C Update	3	2011	3	2011
Competitive Production Efforts	4	2011	3	2015
Conduct Initial Operation Test and Evaluation (IOT&E)	4	2013	1	2014
Low QE Shots	4	2011	3	2014
High Clutter Environment	4	2011	3	2014
Future Radar Development Efforts	4	2012	3	2016

**UNCLASSIFIED**