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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army	Date: February 2015
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Appropriation/Budget Activity 2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)					R-1 Program Element (Number/Name) PE 0604823A / Firefinder							
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
Total Program Element	-	17.734	23.480	6.243	-	6.243	11.314	11.006	10.350	12.062	Continuing	Continuing
L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>	-	-	-	2.967	-	2.967	3.230	3.463	3.500	3.475	Continuing	Continuing
L88: <i>Enhanced AN/TPQ 36</i>	-	17.734	23.480	3.276	-	3.276	8.084	7.543	6.850	8.587	Continuing	Continuing

Note
 FY 2016 Project L86 is a New Start.
 FY 2016 funds were provided to keep pace as technology evolves and address emerging threats.
 FY 2015 adjustment in the amount of -\$14.000 was due to unsustained growth.

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, AN/TPQ-53 (formerly known as Enhanced AN/TPQ-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. The AN/TPQ-53 will provide 90 degree coverage and extended range, with an incremental development to increase detection capability to 360 degrees.

The Fiscal Year (FY) 2016 funds of \$6.243 million will support development and testing for electronic protection and new and emerging threats, including the performance of technical assessments, concept studies, cost reduction, risk reduction and required documentation.

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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Army				Date: February 2015	
Appropriation/Budget Activity		R-1 Program Element (Number/Name)			
2040: Research, Development, Test & Evaluation, Army / BA 5: System Development & Demonstration (SDD)		PE 0604823A / Firefinder			
B. Program Change Summary (\$ in Millions)	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget	20.210	37.492	-	-	-
Current President's Budget	17.734	23.480	6.243	-	6.243
Total Adjustments	-2.476	-14.012	6.243	-	6.243
• Congressional General Reductions	-	-14.000			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-1.804	-			
• SBIR/STTR Transfer	-0.672	-			
• Adjustments to Budget Years	-	-	6.243	-	6.243
• FFRDC	-	-0.012	-	-	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604823A / <i>Firefinder</i>				Project (Number/Name) L86 / <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
L86: <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>	-	-	-	2.967	-	2.967	3.230	3.463	3.500	3.475	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

Note

FY 2016 Project L86 is a New Start.

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, track, and report enemy indirect firing systems and provides the ability to observe friendly fire. The AN/TPQ-50 is capable of being deployed in two configurations, standalone or vehicle mounted. It can be set up and operational in 20 minutes and disassembled in 10 minutes. The AN/TPQ-50 is deployed as part of a System of Systems for the Counter-Rocket, Artillery, Mortar (C-RAM) construct or Rocket, Artillery, Mortar (RAM) Warn. It provides data to the Forward Area Air Defense Command and Control (FAAD C2) node for the sense and warn force protection capability at fixed and semi-fixed sites. It provides 360 degrees of azimuth coverage from ranges of 500 meters to 10 kilometers. The AN/TPQ-50 is a program of record with systems currently fielded to multiple Continental United States (CONUS) and Outside Continental United States (OCONUS) locations and ready for deployment to Operation Freedom's Sentinel.

The Fiscal Year (FY) 2016 RDTE appropriation of \$2.967 million will support development and testing of electronic protection and new and emerging threats including the performance of technical assessments, concept studies, cost reduction, risk reduction and required documentation.

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

	FY 2014	FY 2015	FY 2016
Title: Electronic Protection	-	-	1.052
Description: Develop Radio Frequency (RF) management tactical decision aids to improve operational frequency band selection and develop protection algorithms for the signal processor to defeat radar targeting armaments.			
FY 2016 Plans: Funding will initiate the developmental efforts to improve Spectrum Management, mitigate electromagnetic interference (EMI) from commercial and military bands; this includes all associated program management office (PMO) support costs.			
Title: New and emerging threats	-	-	1.915
Description: This engineering effort will allow the AN/TPQ-50 to more precisely detect future weapons and munitions, in both quantity and quality.			
FY 2016 Plans:			

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0604823A / Firefinder				Project (Number/Name) L86 / LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)				
B. Accomplishments/Planned Programs (\$ in Millions)										FY 2014	FY 2015	FY 2016
This will initiate the work required to enhance the AN/TPQ-50's capability to accurately detect, track and locate new threats to the warfighter. This includes all associated program management office (PMO) support costs.												
Accomplishments/Planned Programs Subtotals										-	-	2.967
C. Other Program Funding Summary (\$ in Millions)												
Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost	
• B05201: SSN: B05201 Lightweight Counter Mortar Radar	98.535	24.828	63.472	-	63.472	46.395	11.399	9.614	-	Continuing	Continuing	
Remarks												
D. Acquisition Strategy												
The AN/TPQ-50 Lightweight Counter Mortar Radar was developed in 2009 to meet Training and Doctrine Command (TRADOC) Capabilities Production Document (CPD) requirements. A favorable full rate production (FRP) decision was achieved on 21 June 2013. The AN/TPQ-50 is now in Full Rate Production with 163 units on order. A second three year production contract is scheduled for 2QFY16. Follow on production contracts will be awarded as needed to fulfill the AAO. The Fiscal Year (FY) 2016 RDTE appropriation of \$2.967 million will support development and testing of electronic protection and new and emerging threats including the performance of technical assessments, concept studies, cost reduction, risk reduction and required documentation.												
E. Performance Metrics												
N/A												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army												Date: February 2015			
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0604823A / Firefinder				Project (Number/Name) L86 / LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)							
Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management (Government Matrix)	Various	Various : Activities	1.155	-		-		0.144		-		0.144	Continuing	Continuing	-
Subtotal			1.155	-		-		0.144		-		0.144	-	-	-
Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
New and Emerging Threats	C/CPFF	TBD : TBD	0.000	-		-		1.782	Jan 16	-		1.782	Continuing	Continuing	-
Electronic Protection	C/CPFF	TBD : TBD	0.000	-		-		0.979	Jan 16	-		0.979	0.592	1.571	-
Subtotal			0.000	-		-		2.761		-		2.761	-	-	-
Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support (Government)	Various	Various : Activities	4.751	-		-		0.062		-		0.062	0.286	5.099	-
Subtotal			4.751	-		-		0.062		-		0.062	0.286	5.099	-
			Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals			5.906	-		-		2.967		-		2.967	-	-	-
Remarks															

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army																				Date: February 2015								
Appropriation/Budget Activity 2040 / 5										R-1 Program Element (Number/Name) PE 0604823A / <i>Firefinder</i>										Project (Number/Name) L86 / <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>								
Event Name	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	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
Electronic Protection									[Redacted]				[Redacted]				[Redacted]				[Redacted]				[Redacted]			
New and emerging threats									[Redacted]																			
(1) FRP #2 Contract									[Redacted]				[Redacted]				[Redacted]				[Redacted]				[Redacted]			

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604823A / <i>Firefinder</i>	Project (Number/Name) L86 / <i>LIGHTWEIGHT COUNTER MORTAR RADAR (LCMR)</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Electronic Protection	2	2016	4	2017
New and emerging threats	2	2016	4	2020
FRP #2 Contract	2	2016	2	2016

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015		
Appropriation/Budget Activity 2040 / 5					R-1 Program Element (Number/Name) PE 0604823A / <i>Firefinder</i>				Project (Number/Name) L88 / <i>Enhanced AN/TPQ 36</i>			
COST (\$ in Millions)	Prior Years	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
L88: <i>Enhanced AN/TPQ 36</i>	-	17.734	23.480	3.276	-	3.276	8.084	7.543	6.850	8.587	Continuing	Continuing
Quantity of RDT&E Articles	-	-	-	-	-	-	-	-	-	-		

A. Mission Description and Budget Item Justification

The AN/TPQ-53 (formerly known as the Enhanced AN/TPQ-36) Counterfire Target Acquisition Radar System Capability Production Document (CPD) was approved on 29 September 2010. The AN/TPQ-53 System is a highly mobile radar set that automatically detects, classifies, tracks, and locates the point of origin of projectiles fired from mortar, artillery, and rocket systems with sufficient accuracy for first round fire for effect. It mitigates close combat radar coverage gaps and will ultimately replace the current AN/TPQ-36 and AN/TPQ-37 Firefinder Radars; fully supporting brigade combat teams (BCTs) and fires brigades operations. The AN/TPQ-53 system interoperates with battle command systems (BCSs) to provide the maneuver commander increased counterfire radar flexibility. The AN/TPQ-53 System is capable of being deployed as part of the Indirect Fire Protection Capability (IFPC) system of systems (SoS) to provide a sense and warn capability for fixed and semi-fixed sites. The AN/TPQ-53 provides a system with increased range and accuracy throughout a 90 degree search sector (stare mode) as well as 360 degree coverage (rotating) for locating mortar, artillery and rocket firing positions.

The Fiscal Year (FY) 2016 funds of \$3.276 million will support development and testing of pre-planned product improvements (P3I) for electronic protection and new and emerging threats, including the performance of technical assessments, concept studies, cost reduction, risk reduction and required documentation.

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

	FY 2014	FY 2015	FY 2016
Title: Test support Description: Funding is provided to support testing efforts FY 2014 Accomplishments: Test activities to include developmental testing (DT), Initial Operational Test and Evaluation (IOT&E), operational capabilities and limitations (C&Ls) testing, software and hardware independent verification and validation (IV&V), ammunition, program management office (PMO) and test support costs. FY 2015 Plans: Test activities to include Rehearsal of Concept (ROC) drill, delta IOT&E, reliability and performance testing, follow-on testing, operational C&L tests, ammunition, PMO and test support costs.	5.947	20.839	-
Title: Electronic Protection / Worldwide Interoperability for Microwave Access (WiMAX) Description: Develop radio frequency (RF) management tactical decision aids to improve operational frequency band selection and radar emplacement. Develop protection algorithms for the signal processor to defeat radar targeting armaments. FY 2016 Plans:	-	-	1.638

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015		
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604823A / Firefinder	Project (Number/Name) L88 / Enhanced AN/TPQ 36		
B. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016
Mitigate electromagnetic interference (EMI) from military bands, hostile EMI, and the WiMAX commercial spectrum; this includes associated program management office (PMO) support costs				
Title: High Clutter Environment Description: Development efforts to track projectiles through high clutter environments. FY 2014 Accomplishments: Complete development efforts to track projectiles through a high clutter environment; this includes associated PMO support costs.		5.020	-	-
Title: Low Quadrant Elevation (QE) Shots Description: Improve system ability to come to solution for low QE shots with short time of flight. Improve system performance in multi-path conditions. FY 2014 Accomplishments: Complete efforts to develop algorithms to detect low QE shots; this includes associated PMO support costs.		3.553	-	-
Title: New and emerging threats Description: Developmental efforts to detect the emerging threats of more precise weapons and munitions, including non-traditional munitions, considering both quantity and quality. FY 2016 Plans: Initiate developmental efforts to accurately detect, track, and locate new and emerging threats to the warfighter as a result of changes in the battlefield and areas of operation; this includes associated PMO costs.		-	-	1.638
Title: Signal Data Processor (SDP) Description: Development efforts to upgrade the SDP in order to support the high speed processing demands of the radar as well as the latest operating system versions. FY 2015 Plans: SDP design efforts include software and computing architecture development; this includes associated testing and program management office (PMO) costs.		-	2.227	-
Title: Global Positioning System (GPS) Military Code (M-Code) Description: Congress has passed a law requiring GPS equipment to be capable of receiving M-Code. A concept and design will be formulated based upon design documentation from the project manager. FY 2014 Accomplishments:		1.252	0.414	-

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army										Date: February 2015	
Appropriation/Budget Activity 2040 / 5				R-1 Program Element (Number/Name) PE 0604823A / Firefinder				Project (Number/Name) L88 / Enhanced AN/TPQ 36			
B. Accomplishments/Planned Programs (\$ in Millions)								FY 2014	FY 2015	FY 2016	
Initiate software and design development based on information provided by Product Directorate (PD) Positioning Navigation and Timing (PNT); this includes associated PMO costs.											
FY 2015 Plans: Continue software and design development based on information provided by PD PNT; this includes associated PMO costs.											
Title: Wireless Communication Upgrade								1.962	-	-	
Description: Upgrade of the Rajant radio suite of communication equipment utilized by the AN/TPQ-53 system to ensure compliance with information assurance (IA) requirements.											
FY 2014 Accomplishments: Development efforts to include updates of the software design; this includes associated PMO costs.											
Accomplishments/Planned Programs Subtotals								17.734	23.480	3.276	
C. Other Program Funding Summary (\$ in Millions)											
Line Item	FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total	FY 2017	FY 2018	FY 2019	FY 2020	Cost To Complete	Total Cost
• SSN B05310 AN/TPQ-53: SSN B05310 AN/TPQ-53	348.557	159.050	217.379	-	217.379	345.879	217.246	98.900	-	-	1,387.011
Remarks											
D. Acquisition Strategy											
The AN/TPQ-53 leverages technology developed in the multi-mission radar advanced technology objective (ATO) program incorporating the latest antenna technology into the AN/TPQ-53. In 2006, the Government awarded a contract following full and open competition for the design of the AN/TPQ-53 radar and the purchase of four non-recurring engineering (NRE) radars. Twelve additional quick reaction capability (QRC) radars were purchased under the same contract in response to an urgent directed procurement in July 2008. The Milestone Decision Authority (MDA) approved the acquisition of up to 20 more QRC radars. Twenty systems were procured through two separate contract actions in 2010 and 2011. A competitive production contract for Low Rate Initial Production (LRIP) systems was awarded in 2012 and options for additional systems were awarded in 2013 and 2014. Production and delivery of all QRC/Initial Production (IP) systems are complete, and production of LRIP systems is ongoing. A Full Rate Production (FRP) contract to fill the remainder of the Army Acquisition Objective (AAO) is expected to be awarded following a successful completion of the second Initial Operational Test and Evaluation (IOT&E). Additionally, all initial production systems will be retrofitted to the FRP configuration. The FRP system deliveries will continue through fiscal year (FY) 2021. The system will eventually replace all of the AN/TPQ-36 and AN/TPQ-37 systems in the fleet.											
The Fiscal Year (FY) 2016 funds of \$3.276 million will support development and testing of pre-planned product improvements (P3I) for electronic protection and new and emerging threats, including the performance of technical assessments, concept studies, cost reduction, risk reduction and required documentation.											

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Exhibit R-2A, RDT&E Project Justification: PB 2016 Army		Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604823A / <i>Firefinder</i>	Project (Number/Name) L88 / <i>Enhanced AN/TPQ 36</i>
E. Performance Metrics N/A		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army **Date:** February 2015

Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604823A / <i>Firefinder</i>	Project (Number/Name) L88 / <i>Enhanced AN/TPQ 36</i>
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Management Services (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Program Management (Contractor)	Various	Various : Activities	3.618	0.351	Sep 2014	-		-		-		-	-	3.969	-
Program Management (Government)	Various	Various : Activities	1.007	0.332	Sep 2014	1.305	May 2015	0.156	Mar 2016	-		0.156	Continuing	Continuing	-
Subtotal			4.625	0.683		1.305		0.156		-		0.156	-	-	-

Remarks

Efforts completed before Fiscal Year (FY) 2014 are not included in this R-3 form.

Product Development (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Electronic Protection/ Worldwide Interoperability for Microwave Access (WiMAX)	SS/CPFF	Lockheed Martin : Syracuse, NY	0.000	-		-		1.560	Mar 2016	-		1.560	Continuing	Continuing	-
High Clutter Environment	SS/CPFF	Lockheed Martin : Syracuse, NY	5.340	5.000	Mar 2015	-		-		-		-	-	10.340	-
Low Quadrant Elevation (QE) Shots	SS/CPFF	Lockheed Martin : Syracuse, NY	1.332	3.533	Mar 2015	-		-		-		-	-	4.865	-
New and Emerging Threats	SS/CPFF	Lockheed Martin : Syracuse, NY	0.000	-		-		1.560	Mar 2016	-		1.560	Continuing	Continuing	-
Signal Data Processor (SDP)	SS/CPFF	Lockheed Martin : Syracuse, NY	0.000	-		1.992	Mar 2015	-		-		-	-	1.992	-
Global Positioning System (GPS) Military Code (M-Code)	SS/CPFF	Lockheed Martin : Syracuse, NY	0.000	1.232	Mar 2015	0.179	Mar 2015	-		-		-	-	1.411	-
Wireless Communication Upgrade	SS/CPFF	Lockheed Martin : Syracuse, NY	0.000	1.942	Mar 2015	-		-		-		-	-	1.942	-
Subtotal			6.672	11.707		2.171		3.120		-		3.120	-	-	-

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Army												Date: February 2015			
Appropriation/Budget Activity 2040 / 5						R-1 Program Element (Number/Name) PE 0604823A / <i>Firefinder</i>				Project (Number/Name) L88 / <i>Enhanced AN/TPQ 36</i>					

Test and Evaluation (\$ in Millions)				FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Prior Years	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Test Support	Various	Various : Activities	30.857	5.344		20.004		-		-		-	-	56.205	-
Subtotal			30.857	5.344		20.004		-		-		-	-	56.205	-

	Prior Years	FY 2014		FY 2015		FY 2016 Base		FY 2016 OCO		FY 2016 Total	Cost To Complete	Total Cost	Target Value of Contract
Project Cost Totals	42.154	17.734		23.480		3.276		-		3.276	-	-	-

Remarks

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Army

Date: February 2015

Appropriation/Budget Activity

2040 / 5

R-1 Program Element (Number/Name)

PE 0604823A / *Firefinder*

Project (Number/Name)

L88 / *Enhanced AN/TPQ 36*

Event Name	FY 2014				FY 2015				FY 2016				FY 2017				FY 2018				FY 2019				FY 2020			
	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
Developmental Test (DT)																												
Initial Operational Test and Evaluation (IOT&E)																												
Delta IOT&E																												
Follow-On Testing																												
Electronic Protection/Worldwide Interoperability for Microwave Access (E																												
High Clutter Environment																												
Low Quadrant Elevation (QE) Shots																												
New and Emerging Threats																												
Signal Data Processor (SDP)																												
Global Positioning System (GPS) Military Code (M-Code)																												
Wireless Communication Upgrade																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Army			Date: February 2015
Appropriation/Budget Activity 2040 / 5	R-1 Program Element (Number/Name) PE 0604823A / <i>Firefinder</i>	Project (Number/Name) L88 / <i>Enhanced AN/TPQ 36</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Developmental Test (DT)	2	2012	4	2014
Initial Operational Test and Evaluation (IOT&E)	2	2014	3	2014
Delta IOT&E	3	2015	3	2015
Follow-On Testing	1	2016	4	2016
Electronic Protection/Worldwide Interoperability for Microwave Access (WiMAX)	1	2016	4	2021
High Clutter Environment	1	2013	4	2015
Low Quadrant Elevation (QE) Shots	1	2013	4	2015
New and Emerging Threats	1	2016	4	2021
Signal Data Processor (SDP)	2	2015	4	2016
Global Positioning System (GPS) Military Code (M-Code)	2	2015	4	2016
Wireless Communication Upgrade	2	2015	4	2016