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Exhibit R-2, RDT&E Budget Item Justification: PB 2016 Air Force										Date: February 2015		
Appropriation/Budget Activity 3600: Research, Development, Test & Evaluation, Air Force I BA 4: Advanced Component Development & Prototypes (ACD&P)					R-1 Program Element (Number/Name) PE 0207455F I Three Dimensional Long-Range Radar (3DELRR)							
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	0.000	52.891	88.825	14.939	-	14.939	69.985	50.864	13.916	24.816	-	316.236
646002: Three Dimensional Expeditionary Long Range Radar	0.000	52.891	88.825	14.939	-	14.939	69.985	50.864	13.916	24.816	-	316.236
Quantity of RDT&E Articles		-	-	-	-	-	-	-	-	-		
Program MDAP/MAIS Code: 393												
Note Prior to FY14, 3DELRR funding was contained in PE 0604283F												
A. Mission Description and Budget Item Justification 3DELRR will be the principal United States Air Force (USAF) long-range, ground-based sensor for detecting, identifying, tracking, and reporting aerial tracks for the Joint Force Air Component Commander (JFACC) through the Theater Air Control System (TACS). 3DELRR will respond to the operational need to detect and report highly maneuverable, small radar cross section targets to enable battlefield awareness while at the same time mitigating the reliability, maintainability, and sustainability issues plaguing the AN/TPS-75 radar system. 3DELRR will provide air controllers with a precise, real-time air picture of sufficient quality to conduct control of individual aircraft under a wide range of environmental and operational conditions. It will replace an aging USAF AN/TPS-75 radar system that is incapable of detecting some current and emerging threats. In addition, as the AN/TPS-75 is reaching the end of its service life, it is more difficult and costly to maintain. 3DELRR addresses system sustainability, transportability and operational availability shortfalls while providing detection and tracking of Air Breathing Threats (ABTs). Long-range surveillance is key to performing the Airspace Control Authority (ACA) and the Area Air Defense Commander (AADC) roles as well as improving the USAF contributions to the Integrated Air and Missile Defense (IAMD) mission area. 3DELRR continues to be a Department of Defense pilot program for Defense Exportability Features (DEF) which incorporates export features early in the design phase to maximize export potential and reduce 3DELRR life cycle costs through increased production. In addition to the real-time picture for the USAF Control and Reporting Center (CRC), 3DELRR will provide tracks to the United States Marine Corps (USMC) via Composite Tracking Network (CTN) interface, and the United States Army (USA) via Integrated Fire Control Network (IFCN) interface. This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P), because efforts are necessary to evalute integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.												

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B. Program Change Summary (\$ in Millions)		FY 2014	FY 2015	FY 2016 Base	FY 2016 OCO	FY 2016 Total
Previous President's Budget		54.191	88.825	98.250	-	98.250
Current President's Budget		52.891	88.825	14.939	-	14.939
Total Adjustments		-1.300	-	-83.311	-	-83.311
• Congressional General Reductions		-	-			
• Congressional Directed Reductions		-	-			
• Congressional Rescissions		-	-			
• Congressional Adds		-	-			
• Congressional Directed Transfers		-	-			
• Reprogrammings		-1.300	-			
• SBIR/STTR Transfer		-	-			
• Other Adjustments		-	-	-83.311	-	-83.311
Change Summary Explanation						
FY14 reduced by 1.3M due to Below Threshold Reprogramming						
FY16 Current President's Budget reduced by \$83.311M due to efficiencies gained in the competitive acquisition strategy.						
C. Accomplishments/Planned Programs (\$ in Millions)				FY 2014	FY 2015	FY 2016
Title: Technology Development (TD)/EMD Phases				43.396	79.549	0.001
Description: Technology Development (TD)/EMD efforts associated with delivering a new long-range ground-based sensor.						
FY 2014 Accomplishments: Acquisition activities in FY14 included: EMD Phase Request for Proposal (RFP) development and release, MS-B preparation and MS-B decision, limited competition source selection to award a single EMD contract, test planning/preparation, and studies and analyses to support both current program planning and execution of future program planning.						
FY 2015 Plans: Acquisition activities for the EMD Phase include, but are not limited to: Delta Preliminary Design Review (PDR), Engineering Design Readiness Review (EDRR), Critical Design Review (CDR), Integrated Baseline Review (IBR), test planning/preparation and fabrication/test of system components/subsystems. A CDR is conducted during this timeframe to ensure the program has properly matured the system design and is postured for successful development of 3 Production Representative Units (PRUs). Activities also include studies and analyses to support both current program planning and execution and future program planning.						
FY 2016 Plans: Will continue acquisition activities for the EMD Phase including, but not limited to: test planning/preparation, fabrication/test of system components/subsystems, initial physical configuration audit (PCA), continued efforts to ensure the program has properly						

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C. Accomplishments/Planned Programs (\$ in Millions)		FY 2014	FY 2015	FY 2016
matured the system design and is postured for successful completion of 3 Production Representative Units (PRUs) to be delivered in FY17. Activities will also include studies and analyses to support both current program planning and execution and future program planning.				
Title: Test and Evaluation Support Description: Test and Evaluation Support FY 2014 Accomplishments: Continued test and evaluation support activities for development of the test strategy and test related documentation, planning of future developmental test and evaluation events, and information assurance planning. FY 2015 Plans: Test and Evaluation activities include, but are not limited to: test and evaluation support activities for development of the test strategy and test related documentation, planning of future developmental test and evaluation events, information assurance planning, and participation in technical and test related working groups. FY 2016 Plans: Specific Test and Evaluation activities include but are not limited to: develop the test strategy and test related documentation, conduct site surveys, plan developmental test and evaluation events, conduct cyber security planning, support contractor testing, and participate in technical and test related working groups. Test and Evaluation personnel, training and travel will significantly increase to accommodate Contractor developmental test monitoring and execution of Government developmental testing.		0.672	1.507	6.797
Title: Systems Engineering/Technical Support Description: Systems Engineering/Technical Support FY 2014 Accomplishments: Developed EMD Request for Proposal and conducted source selection. Prepared and planned EMD efforts to further mature program technologies and manufacturing capabilities. Documented and monitored changes to the program that could affect the system baseline. Identified, monitored and mitigated technical risks. FY 2015 Plans: Will continue Engineering and Manufacturing efforts to further mature program technologies and manufacturing capabilities. Will lead Delta-PDR, EDRR, and CDR technical reviews. Will participate in IBR. Will document and monitor changes to the program that could affect the system baseline. Will support reliability growth efforts during contractor test and will continue to identify, monitor, and mitigate technical program risks. FY 2016 Plans:		8.823	7.769	8.141

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C. Accomplishments/Planned Programs (\$ in Millions)										FY 2014	FY 2015	FY 2016
Engineering support activities include, but are not limited to the following: preparation and planning for EMD efforts to further mature program technologies and manufacturing capabilities, document and monitor changes to the program that could affect the system baseline, support reliability growth efforts during contractor test, and continue to identify, monitor, and mitigate technical risks.												
Accomplishments/Planned Programs Subtotals										52.891	88.825	14.939
D. 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	
• OPAF: BA04: Line Item # 833060: <i>3D Expeditionary Long Range Radar</i>	-	-	-	-	-	-	44.714	154.230	163.433	753.800	1,116.177	
Remarks												
E. Acquisition Strategy Three Dimensional Expeditionary Long-Range Radar (3DELRR) will provide full capability via competition to further advance Command and Control capabilities supporting Theater Battle Management.												
F. Performance Metrics Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.												

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2016 Air Force												Date: February 2015			
Appropriation/Budget Activity 3600 / 4						R-1 Program Element (Number/Name) PE 0207455F / Three Dimensional Long-Range Radar (3DELRR)						Project (Number/Name) 646002 / Three Dimensional Expeditionary Long Range Radar			
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
EMD Phase	C/FPIF	Raytheon Integrated Defense Systems : Sudbury, MA	0.000	43.396	Oct 2014	79.549	Aug 2015	0.001	Oct 2015	-		0.001	144.981	267.927	265.000
Subtotal			0.000	43.396		79.549		0.001		-		0.001	144.981	267.927	265.000
Support (\$ 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
System Engineering - A	SS/CPFF	MIT/Lincoln Laboratory : Lexington, MA	0.000	1.900	Oct 2013	1.600	Oct 2014	1.015	Oct 2015	-		1.015	1.396	5.911	TBD
System Engineering - C	SS/CPFF	Carnegie Mellon University : Pittsburgh, PA	0.000	0.119	Oct 2013	0.150	Oct 2014	0.150	Oct 2015	-		0.150	-	0.419	TBD
Subtotal			0.000	2.019		1.750		1.165		-		1.165	1.396	6.330	-
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
46th Test Wing/Other Test Agencies	Various	Various : Various,	0.000	0.672	Oct 2013	1.507	Oct 2014	6.797	Oct 2015	-		6.797	6.550	15.526	TBD
Subtotal			0.000	0.672		1.507		6.797		-		6.797	6.550	15.526	-
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 Administration	Various	Various : Various,	0.000	6.804	Oct 2013	6.019	Oct 2014	6.976	Oct 2015	-		6.976	6.654	26.453	TBD

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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	Award Date	Cost To Complete	Total Cost	Target Value of Contract
Subtotal			0.000	6.804		6.019		6.976		-		6.976		6.654	26.453	-

	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	0.000	52.891	88.825	14.939	-	14.939	159.581	316.236	-

Remarks
 Prior to FY14 3DELRR resided in a different PE

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Exhibit R-4, RDT&E Schedule Profile: PB 2016 Air Force			Date: February 2015		
Appropriation/Budget Activity 3600 / 4			R-1 Program Element (Number/Name) PE 0207455F / <i>Three Dimensional Long-Range Radar (3DELRR)</i>		
			Project (Number/Name) 646002 / <i>Three Dimensional Expeditionary Long Range Radar</i>		

	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
Source Selection for EMD and LRIP Contract																												
Milestone B																												
EMD Contract Award																												
EMD Phase																												
Critical Design Review (CDR)																												
Developmental Test & Evaluation Test Readiness Review																												
Government Development Test																												
Production Representative Units Delivery																												
Operational Test Readiness Review (OTRR)																												
Government Operational Test																												
Milestone C																												
Low Rate Initial Production (LRIP)																												
Full Rate Production Decision																												
Production and Deployment Phase																												

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Exhibit R-4A, RDT&E Schedule Details: PB 2016 Air Force			Date: February 2015
Appropriation/Budget Activity 3600 / 4	R-1 Program Element (Number/Name) PE 0207455F / <i>Three Dimensional Long-Range Radar (3DELRR)</i>	Project (Number/Name) 646002 / <i>Three Dimensional Expeditionary Long Range Radar</i>	

Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
Source Selection for EMD and LRIP Contract	2	2014	4	2014
Milestone B	4	2014	4	2014
EMD Contract Award	1	2015	1	2015
EMD Phase	4	2014	2	2018
Critical Design Review (CDR)	3	2015	3	2015
Developmental Test & Evaluation Test Readiness Review	2	2017	2	2017
Government Development Test	2	2017	2	2018
Production Representative Units Delivery	2	2017	3	2017
Operational Test Readiness Review (OTRR)	3	2018	3	2018
Government Operational Test	4	2018	4	2019
Milestone C	4	2018	4	2018
Low Rate Initial Production (LRIP)	4	2018	2	2020
Full Rate Production Decision	4	2019	4	2019
Production and Deployment Phase	4	2019	4	2020