Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force										DATE: February 2012	
APPROPRIATION/BUDGET ACTIVITY 3600: *Research, Development, Test & Evaluation, Air Force* BA 4: *Advanced Component Development & Prototypes (ACD&P)*				R-1 ITEM NOMENCLATURE PE 0604283F: *BMC2 Sensor Development*							
COST ($ in Millions)	**FY 2011**	**FY 2012**	**FY 2013 Base**	**FY 2013 OCO**	**FY 2013 Total**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Cost To Complete**	**Total Cost**
Total Program Element	12.994	30.362	114.417	-	114.417	-	-	-	-	Continuing	Continuing
646002: *Three Dimensional Expeditionary Long Range Radar*	12.994	30.362	114.417	-	114.417	-	-	-	-	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

Note

In FY 2012, Project 6002, Three Dimensional Expeditionary Long Range Radar (3DELRR), efforts were transferred from PE 0207412F, Control and Reporting Center, Project 5294, Theater Air Control System Improvement - Radar, in order to provide this pre-Major Defense Acquisition Program its own Program Element.

A. Mission Description and Budget Item Justification

Beginning in FY12, PE 0604283F funds the development of the Three-Dimensional Expeditionary Long-Range Radar (3DELRR) which will replace the current legacy AN/TPS-75 radar. 3DELRR will be the principal USAF long-range, ground-based sensor for detecting, identifying, tracking, and reporting aircraft and missiles in support of the Joint Forces Air Component Commander (JFACC) through the Ground Theater Air Control System (GTACS). The primary mission of the 3DELRR will be to provide long-range surveillance, control of aircraft, theater ballistic missile detection, and Combat Identification (CID). The 3DELRR will respond to the operational need to detect and report highly maneuverable, small radar cross section targets to enable battlespace awareness while at the same time mitigating the reliability, maintainability, and sustainability issues plaguing the AN/TPS-75 radar system. The 3DELRR will provide air controllers with a precise, real-time air picture of sufficient quality to conduct close control of individual aircraft under a wide range of environmental and operational conditions. In the case of theater missile defense operations, the 3DELRR will have the capability to detect, track, and disseminate target information to respective command and control nodes, such as the Control and Reporting Center (CRC), for warning and engagement. Similarly, the joint targeting process will benefit from trajectory information provided by the 3DELRR, including launch and impact locations.

The Pre-EMD efforts of the 3DELRR Program begin in FY12 and continue through FY13. Acquisition activities during this Pre-EMD effort timeframe will include, but are not limited to, source selection to award multiple contracts, requirements refinement, completion of the preliminary design development, continued software and hardware subsystem-level development, modeling and simulation to support the system development, implementation of mitigation techniques to combat existing and emerging system threats (including cyber warfare), test planning, and implementation of the program protection plan. A Preliminary Design Review (PDR), and Capability Demonstration C Event will be conducted during this timeframe to ensure that the program is successful in the development of a mature preliminary system design. Activities will also include studies and analyses to support both current program planning and execution and future program planning as well as finalization of Milestone B documentation and preparation for a Milestone B review.

In FY11 PE 0604283F BMC2 Sensor Development funded the Next Generation Aerial Ground Surveillance Radar strategy development. The primary mission of Next Generation Radar (NGR) is the development of an Open System Architecture (OSA) specification to guide all future USAF Ground Moving Target Indicator (GMTI) /Synthetic Aperture Radar (SAR) development. NGR will develop an integration environment to define, validate, and verify compliance with the government

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OSA specification, through analysis and demonstration. NGR will develop a GMTI/SAR roadmap that assesses current and future radar technologies to guide future USAF investment strategy. NGR will provide the USAF a platform-independent OSA radar technology maturation and risk reduction effort. NGR will enable the future development of OSA prototype radar to allow the rapid fielding of capabilities addressing evolving needs of detection and tracking in support of future requirements and capability gaps.

This program is in Budget Activity 4, Advanced Component Development and Prototypes (ACD&P) because efforts are necessary to evaluate integrated technologies, representative modes or prototype systems in a high fidelity and realistic operating environment.

B. Program Change Summary ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Previous President's Budget	-	60.250	117.713	-	117.713
Current President's Budget	12.994	30.362	114.417	-	114.417
Total Adjustments	12.994	-29.888	-3.296	-	-3.296
• Congressional General Reductions	-	-0.888			
• Congressional Directed Reductions	-	-29.000			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	1.055	-			
• SBIR/STTR Transfer	-	-			
• Other Adjustments	11.939	-	-3.296	-	-3.296

Change Summary Explanation

In FY 2011, Project 6002, Three Dimensional Expeditionary Long Range Radar (3DELRR), increase due to a Congressional add for GMTI Radar Development.

In FY 2012, Project 6002, Three Dimensional Expeditionary Long Range Radar (3DELRR), $29M decrease due to Congressional Reduction.

In FY 2012 Congressional General Reduction (FFRDC, Sec. 8023) of $0.888M.

In FY 2013, Project 6002, Three Dimensional Expeditionary Long Range Radar (3DELRR), $3.296M decrease due to adjustment in schedule changes.

C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Title: Next Generation Radar: Cong Add to Multi Platform-Radar Technology Insertion Program (MP-RTIP)	9.720	-	-	-	-

Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Air Force	DATE: February 2012
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C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Description: Next Generation Radar (NGR) is the development of an Open System Architecture (OSA) specification to guide all future USAF Ground Moving Target Indicator (GMTI) /Synthetic Aperture Radar (SAR) development. ***FY 2011 Accomplishments:*** Created Open System Architecture (OSA) specification to guide all future USAF Ground Moving Target Indicator (GMTI) /Synthetic Aperture Radar (SAR) development. Developed an integration environment to define, validate, and verify compliance with the government OSA specification, through analysis and demonstration. Developed a GMTI/SAR roadmap that assesses current and future radar technologies to guide future USAF investment strategy. ***FY 2012 Plans:*** N/A ***FY 2013 Base Plans:*** N/A ***FY 2013 OCO Plans:*** N/A					
Title: Technology Development (TD); Pre-EMD Period ***Description:*** Technology Development (TD) Phase and Pre-EMD efforts associated with delivering a new long-range ground-based sensor. ***FY 2011 Accomplishments:*** N/A ***FY 2012 Plans:*** Continuing the Technology Development (TD) Phase efforts of the 3DELRR Program with the start of the Pre-EMD period to develop a system design. Acquisition activities during FY12 include full and open source selection, preliminary design development, software and hardware subsystem-level development, to support system development, implementation of mitigation techniques to combat existing and emerging system threats (including cyber warfare), test planning, and implementation of the program protection plan. A combined System Requirements and System Functional Review (SRFR) ensured the program headed toward a single, mature	-	22.465	101.370	-	101.370

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C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
system design. Activities also include continuing development of Milestone B documentation as well as studies and analyses to support both current program planning and execution and future program planning. ***FY 2013 Base Plans:*** The Pre-EMD period of the 3DELRR Program will continue through FY13. Acquisition activities during FY13 will include, but are not limited to, completion of the preliminary design development, continuing software and hardware subsystem-level development, to support the system development, implementation of mitigation techniques to combat existing and emerging system threats (including cyber warfare), test planning, and implementation of the program protection plan. A System Function Review (SRFR), Preliminary Design Review (PDR), and Capability Demonstration C Event will ensure that the program achieves a mature preliminary system design. Activities will also include studies and analyses to support both current program planning and execution and future program planning as well as finalization of Milestone B documentation and meeting the Milestone B decision review. ***FY 2013 OCO Plans:*** N/A					
Title: Test and Evaluation Support ***Description:*** Test and Evaluation Support ***FY 2011 Accomplishments:*** N/A ***FY 2012 Plans:*** Test and evaluation support activities for continuing 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 2013 Base Plans:*** Will continue 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 2013 OCO Plans:*** N/A	-	0.127	2.189	-	2.189
Title: Systems Engineering/ Technical Support	-	6.883	9.457	-	9.457

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C. Accomplishments/Planned Programs ($ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total
Description: Systems Engineering/Technical Support ***FY 2011 Accomplishments:*** N/A ***FY 2012 Plans:*** Systems Engineering/Technical Support ***FY 2013 Base Plans:*** Systems Engineering/Technical Support ***FY 2013 OCO Plans:*** N/A					
Title: Management Services ***Description:*** Management Services ***FY 2011 Accomplishments:*** Management Services ***FY 2012 Plans:*** Management Services ***FY 2013 Base Plans:*** Management Services ***FY 2013 OCO Plans:*** N/A	3.274	0.887	1.401	-	1.401
Accomplishments/Planned Programs Subtotals	12.994	30.362	114.417	-	114.417

D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• RDT&E, PE 0207412F, Control ...: *RDT&E*	42.757	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	42.757

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D. Other Program Funding Summary ($ in Millions)

Line Item	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
• RDT&E, PE, 0207455F, Three D...: *RDT&E*	0.000	0.000	0.000	0.000	0.000	70.160	69.533	89.985	54.000	Continuing	Continuing
• OPAF, PE, 0207455F, Three Dimens...: *OPAF*	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	66.644	Continuing	Continuing

E. Acquisition Strategy

The Three-Dimensional Expeditionary Long-Range Radar (3DELRR) Project will provide full capability via full and open competition to further advance C2 capabilities supporting battlefield command and control.

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.

Exhibit R-4, RDT&E Schedule Profile: PB 2013 Air Force		DATE: February 2012
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Exhibit R-4A, RDT&E Schedule Details: PB 2013 Air Force		DATE: February 2012
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Schedule Details

	Start		End	
Events	**Quarter**	**Year**	**Quarter**	**Year**
3DELRR Risk Reduction Activities	1	2011	4	2013
3DELRR Source Selection	3	2012	4	2012
3DELRR Pre-EMD Contract Award	4	2012	4	2012
3DELRR RFP Development for EMD and LRIP Contract	4	2012	3	2013
3DELRR Tech Development (TD) Phase	4	2012	1	2014
3DELRR Preliminary Design Review (TD Phase)	2	2013	2	2013
3DELRR Capability Demonstration C	4	2013	4	2013
3DELRR Source Selection for EMD and LRIP Contract	4	2013	2	2014
3DELRR Milestone B	1	2014	1	2014
3DELRR EMD/LRIP Contract Award	2	2014	2	2014
3DELRR Engineering and Manufacturing Development (EMD) Phase	2	2014	4	2017
3DELRR Critical Design Review (CDR)	3	2014	3	2014
3DELRR Government Test Readiness Review (TRR)	4	2015	4	2015
3DELRR Development Testing / Operational Testing (DT/OT)	1	2016	4	2017
Multi Platform-Radar Technology Insertion Program	1	2011	4	2011